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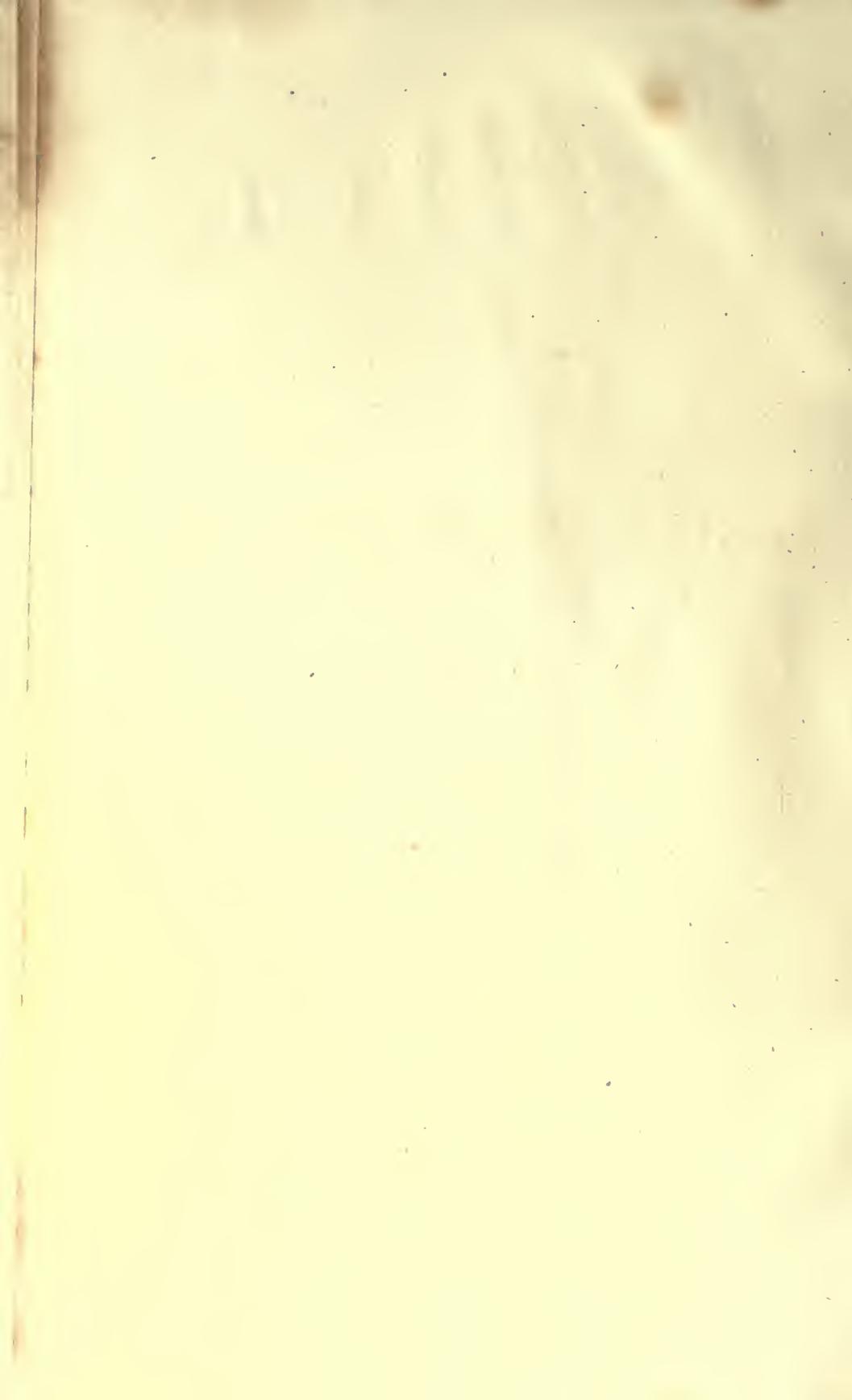
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THE
LONDON ENCYCLOPÆDIA.

VOL. XV.

MITHRIDATES TO NOX.

THE HISTORY OF THE

ROYAL SOCIETY OF LONDON

FROM ITS FOUNDATION

J. Haddon, Printer, Castle Street, London.

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THE
LONDON ENCYCLOPÆDIA,
OR
UNIVERSAL DICTIONARY
OF
SCIENCE, ART, LITERATURE, AND PRACTICAL MECHANICS,

COMPRISING A
POPULAR VIEW OF THE PRESENT STATE OF KNOWLEDGE.

ILLUSTRATED BY
NUMEROUS ENGRAVINGS, A GENERAL ATLAS,
AND APPROPRIATE DIAGRAMS.

Sic oportet ad librum, presertim miscellanei generis, legendum accedere lectorem, ut solet ad convivium convivia. Convivator annititur omnibus satisfacere; et tamen si quid apponitur, quod hujus aut illius palato non respondeat, et hic et ille urbane dissimulant, et alia fercula probant, ne quid contristent convivatorem. Erasmus.

A reader should sit down to a book, especially of the miscellaneous kind, as a well-behaved visitor does to a banquet. The master of the feast exerts himself to satisfy his guests; but if, after all his care and pains, something should appear on the table that does not suit this or that person's taste, they politely pass it over without notice, and commend other dishes, that they may not distress a kind host. Translation.

BY THE ORIGINAL EDITOR OF THE ENCYCLOPÆDIA METROPOLITANA,
ASSISTED BY EMINENT PROFESSIONAL AND OTHER GENTLEMEN.

IN TWENTY-TWO VOLUMES.

VOL. XV.

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THE HISTORY OF THE

ROYAL SOCIETY OF LONDON

FROM ITS FOUNDATION TO THE PRESENT TIME

BY

JOHN VAN DER HAEGHE

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OF THE SOCIETY

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OF

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ROYAL SOCIETY OF LONDON

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THE
LONDON ENCYCLOPÆDIA.

MITHRIDATES, the name of seven kings of Pontus. See **PONTUS**.

MITHRIDATES VII., surnamed Eupator the Great, succeeded to the throne at the age of eleven years, about A. A. C. 123. The beginning of his reign was marked by ambition, cruelty, and artifice. He murdered his own mother, who had been left by his father coheirress of the kingdom; and he fortified his constitution by antidotes against the poison with which his enemies at court might attempt to destroy him. He early inured his body to hardship, and employed himself in the most manly exercises, often remaining whole months in the country, and making frozen snow and the earth the place of his repose. Ambitious and cruel, he spared no pains to acquire power and dominion. He murdered the two sons whom his sister Laodice had by Ariarathes king of Cappadocia, and placed one of his own children, only eight years old, on the throne. These proceedings alarmed Nicomedes king of Bithynia, who had married Laodice the widow of Ariarathes. He surnamed a youth to be king of Cappadocia, as the third son of Ariarathes; and Laodice was sent to Rome to impose upon the senate, and assure them that her third son was now alive, and that his claim to the kingdom of Cappadocia was just. Mithridates, on his part, sent to Rome Gordius the governor of his son; who solemnly declared before the Roman people, that the youth who sat on the throne of Cappadocia was the third son and lawful heir of Ariarathes, and that he was supported as such by Mithridates. The Roman senate, to settle the dispute, took Cappadocia from Mithridates, and Paphlagonia from Nicomedes. These two kingdoms, being thus separated from their original possessors, were presented with their freedom and independence; but the Cappadocians refused it, and received Ariobarzanes for king. Such were the first seeds of enmity between Rome and the king of Pontus. Mithridates, to destroy their power in Asia, ordered all the Romans in his dominions to be massacred in one night; when no fewer than 150,000, according to Plutarch, or 80,000, as Appian mentions, were made the victims of his cruelty. This called aloud for vengeance. Aquilius, and soon after Sylla, marched against Mithridates with a large army. The former was made prisoner; but Sylla obtained a victory over the king's generals; and another decisive engagement rendered him master of all Greece, Macedonia, Ionia, and Asia Minor. This ill fortune was aggravated by the loss of about 200,000 men, who were killed in the several engagements that had been fought; and Mithri-

dates, weakened by repeated ill success by sea and land, sued for peace; which he obtained on condition of defraying the expenses which the Romans had incurred by the war, and of remaining satisfied with his paternal possessions. But Mithridates not long after took the field with an army of 140,000 infantry and 16,000 horsemen, which consisted of his own forces and those of his son-in-law Tigranes king of Armenia. With such a numerous army he soon made himself master of the Roman provinces in Asia; as the Romans, relying on his fidelity, had withdrawn the greatest part of their armies. But the news of his warlike preparations were no sooner heard than Lucullus marched into Asia, and blocked up the camp of Mithridates, who was then besieging Cyzicus. The Asiatic monarch escaped, and fled into the heart of his kingdom. Lucullus pursued him, and would have taken him prisoner after a battle, had not the avarice of his soldiers prevented. The appointment of Glabrio to the command instead of Lucullus, was favorable to Mithridates, who recovered the greatest part of his dominions. The sudden arrival of Pompey, however, soon put an end to his victories. A battle was fought near the Euphrates by moon-light, and a universal overthrow ensued. Mithridates, bold in his misfortunes, rushed through the thickest ranks of the enemy at the head of 800 horsemen, 500 of whom perished in the attempt to follow him. He fled to Tigranes, but that monarch now refused him an asylum. He however found a safe retreat among the Scythians; and though destitute of power, friends, and resources, yet he still meditated the overthrow of the Roman empire. But his wild projects were rejected by his followers, and he sued for peace. Pompey declared that, to obtain it, Mithridates must ask it in person. Scorning to trust to his enemy, he resolved to conquer or die; but his subjects refused to follow him, and revolting, made his son Pharnaces king, who, according to some, ordered him to be put to death. This unnatural treatment broke the heart of Mithridates; he obliged his wife to poison herself, and attempted to do the same. But the frequent antidotes he had taken in youth fortified his constitution against the poison; and, when this failed, he attempted to stab himself. The blow not proving mortal, a Gaul, at his own request, gave him the fatal stroke, about A. A. C. 64. Such was the miserable end of a man, who, according to Roman authors, proved a more powerful and indefatigable adversary to Rome than Pyrrhus, Perseus, Antiochus, or even Hannibal himself. Mithridates has been commended for his virtues, and censured for his vices. As

a commander he deserves the most unbounded applause; and it creates admiration to see him waging war, with such success, during so many years, against the most powerful people on earth, led to the field by a Sylla, a Lucullus, and a Pompey. The greatest rejoicings took place in Rome and in the Roman armies at the news of his death: twelve weeks were appointed for public thanksgivings to the gods; and Pompey, who had sent the first intelligence of his death to Rome, and partly hastened his fall, was rewarded with uncommon honors. It is said that Mithridates conquered twenty-four nations, whose different languages he knew, and spoke with the same fluency as his own. He was acquainted with the Greek language, and even wrote in it a treatise on botany. His skill in physic is well known. Superstition as well as nature had united to render him great; and Justin says his birth was accompanied by the appearance of two large comets, for seventy days successively, whose splendor excelled that of the meridian sun.

MITHRIDATICUM BELLUM, the Mithridatic war, one of the longest and most celebrated wars ever carried on by the Romans against a foreign power.

MITIGATE, *v. a.* } Fr. *mitiger*; Lat. *miti-*
MITIGA'TION, *n. s.* } *go*. To temper; allay;
 alleviate: mitigation, abatement, or qualification,
 of that which is harsh, penal, or painful.

Mishaps are mastered by advice discreet,
 And counsel *mitigates* the greatest smart.

We could greatly wish that the rigour of their
 opinion were allayed and *mitigated*.
Faerie Queene. *Hooker.*

They caused divers subjects to be indicted of sundry crimes; and when the bills were found they committed them, and suffered them to languish long in prison, to extort from them great fines and ransoms, which they termed compositions and *mitigations*.
Bacon's Henry VII.

I undertook

Before thee; and, not repenting, this obtain
 Of right, that I may *mitigate* their doom,
 On me derived. *Milton's Paradise Lost.*

A man has frequent opportunity of *mitigating* the fierceness of a party, of softening the envious, quieting the angry, and rectifying the prejudiced.

Addison's Spectator.

Since that period, remedies have been applied to it, if not of permanent cure, at least of temporary *mitigation*.
Canning.

MITRA, in Roman antiquity, a cap or covering for the head, worn by the ladies, and sometimes by the men; but it was looked upon as a mark of effeminacy in the last, especially when it was tied upon their heads.

MITRE, *n. s.* } Fr. *mitre*; Lat. *mitra*; Gr.
MIT'RED, *adj.* *Μιτρηα*. An ornament or crown for the head; particularly a priestly or episcopal crown: hence a carpenter's pointed joint, i. e. like the acute-angled ornaments of a mitre.

Nor Pantheus, thee, thy *mitre*, nor the bands
 Of awful Phœbus, saved from impious hands.
Dryden.

Mitred abbots, among us, were those that were exempt from the diocesan's jurisdiction, as having within their own precincts episcopal authority, and being lords in parliament were called abbots sovereign.
Ayliffe's Paeregon.

Shall the loud herald our success relate,
 Or *mitred* priest appoint the solemn day? *Prior.*
 Bishopricks or burning, *mitres* or faggots, have
 been the rewards of different persons, according as
 they pronounced these consecrated syllables, or not.
Watts.

A **MITRE** is a sacerdotal cap pointed and cleft at top, worn by bishops and certain abbots on solemn occasions. The high-priest among the Jews wore a mitre, as did also the inferior priests.

MITRE, in architecture, is an angle that is just 45°, or half a right one. If the angle be a quarter of a right angle, they call it a half mitre. To describe such angles, they have an instrument called the mitre square; with this they strike mitre lines on their quarters or battens; and for despatch they have a mitre box, as they call it, which is made of two pieces of wood, each about an inch thick, one nailed upright on the edge of the other; the upper piece has the mitre lines struck upon it on both sides, and a kerf to direct the saw in cutting the mitre joints readily, by only applying the piece into this box.

MITRE is used by the writers of the Irish history for a sort of base money, which was very common there about 1270, and for thirty years before and after. There were several other pieces called, according to the figures impressed upon them, rosaries, lionades, eagles, &c. They were imported from France and other countries, and were so much below the proper currency, that they were not worth a halfpenny each. They were at length decried in 1300, and good coins struck in their place. These were the first Irish coins in which the sceptre was left out. They were struck in the reign of Edward, the son of Henry III., and are still found among the other antiquities of that country. They have the king's head in a triangle full-faced. The penny, when well preserved, weighs 22 grs.; the halfpenny 10½ grs.

MITROWITZ, a town on an island in the river Save in the Austrian states of Slavonia. It is the chief place of the frontier district of Peter Waradein, and has a good trade in hides and cattle. It was ceded to Austria by the Turks, in 1699. Population 3500. Sixteen miles S. S. W. of Peter Waradein.

MITTAU, or **MIETAU**, the capital of the government of Courland, in European Russia, is situated on the river Aa, in the province of Semigalia. It has above 12,000 inhabitants, of whom nearly half are Germans, and about 1000 Jews. The town has generally an uninviting aspect; and the ramparts are fallen into decay. The churches are a Catholic, a Calvinist, and two Lutheran, in only one of which the service is performed in Letonian, the language of the country: in the others the German is used. The public school of Mittau is the principal in Courland: it has also an academical gymnasium, founded by the duke of Courland, in 1775, but both like the ancient castle are in a decayed state. The manufactures are linen, stockings, leather, and soap. This town was for several years during his exile the residence of Louis XVIII. of France. It is 140 miles north of Königsberg, and fifty-six west of Riga.

MITTENS, *n. s.* Fr. *mitaine*; Lat. *manica*. Gloves without fingers.

December must be expressed with a horrid aspect, as also January clad in Irish rug, holding in furred mittens the sign of Capricorn.

Peacham on Drawing.

MITTENT, *adj.* Lat. *mittens*. Sending out or forth.

The fluxion proceedeth from humours peccant in quantity or quality, thrust forth by the part *mittent* upon the inferior weak parts. *Wiseman's Surgery.*

MITTENWALD, the capital of the county of Wenderfels, Bavaria, is situated on the Iser, and has 1800 inhabitants. Thirteen miles N. N. W. of Innspruck.

MITTERBURG, a town of the Austrian kingdom of Illyria, has a castle and a rock, and a population of 1650. Thirty miles south-east of Trieste.

MITTIMUS, *n. s.* Lat. *mittimus*, *mitto*, to send. A warrant by which an offender is committed to prison.

The evil spirit hath said the evening before, tomorrow shalt thou be with me; and now Saul hasteth to make the devil no liar. Rather than fail, he gives himself his own *mittimus*. *Bp. Hall.*

MITTIMUS, in law, has two significations: 1. A writ for removing or transferring of records from one court to another. 2. A precept or command in writing, under the hand and seal of a justice of the peace, directed to the gaoler of some prison, for the receiving and safe keeping of an offender charged with any crime, until he be delivered by due course of law.

MITTWEYDA, a town of Saxony, in the circle of Leipsic, has manufactures of cotton, muslin, linen, hats, and worsted stockings. Population 3800. Old Mittweyda is a small adjoining village. Thirty-two miles west by south of Dresden. Both have often suffered by fire.

MITURE, a large river of the Caraccas, entering the Caribbean Sea, near the mouth of the gulf of Maracaibo, in lat. 11° 27' N. There is a settlement of the same name on its banks.

MITYLENÆ, MITYLENE, or MYTELENE, in ancient geography, a powerful and affluent city, capital of the island of Lesbos. It received its name from Mitylene, the daughter of Macareus, a king of the country. It is greatly commended by the ancients for the stateliness of its buildings and the fruitfulness of its soil, but more particularly for the great men it produced: Pit-tacus, Alcaeus, Sappho, Terpander, Theophanes, Hellenicus, &c., were all natives of Mitylene. It was long a seat of learning; and, with Rhodes and Athens, had the honor of having educated many of the great men of Rome and Greece. In the Peloponnesian war the Mityleneans suffered greatly for their revolt from Athens; and in the Mithridatic wars they had the boldness to resist the Romans, and disdain the treaties which had been made between Mithridates and Sylla. It is now called Metelin.

MITZLER (Laurence Charles de Kolof), a German musical composer of eminence, was born at Vettesheim in 1711. He received his education at Anspach, and studied music under Erhman and Carby. In 1731 we find him at the university of Leipsic, where he made a respect-

able proficiency in mathematics and natural philosophy, and after a residence of twelve years gave public lectures in these branches of science. He published a treatise on the claims of music to be considered as a science, and lectured upon it. At length he accompanied a Polish nobleman to Warsaw, and grew into so great favor at court as to obtain from the king a patent of nobility. Other works of his are, a Musical Library, or an Analysis of Books and Writings on Music, Leipsic, 3 vols. published between the years 1738 and 1754; A Musical Illustration of the War carried on by the emperor Charles VI., against the Allied Forces, Wittenberg, 1753; The Elements of Thorough Bass, Leipsic, 1739; The Musical Oculist, &c., 1740; and a German Translation of Fux's Gradus ad Parnassum, 1742. His death took place in 1788.

MIX', *v. a. & v. n.* } Teut. *mischin*; Lat.
MIX'TION, *n. s.* } *misceo*. To mingle; unite
MIX'TURE. } to something else; form
of different substances or materials; to be united in one substance: mixtion and mixture mean, intromission; the art of mixing; state of being mixed; or the mass formed; in particular that which is added or mixed.

A *mixed* multitude went up with them, and flocks and herds. *Exod. xii. 38.*

Ephraim hath *mixed* himself among the people.

Hos. vii. 8.

He sent out of his mouth a blast of fire, and out of his lips a flaming breath, and out of his tongue he cast out sparks and tempests; and they were all *mixed* together. *2 Esdr.*

O happy *mixture*, wherein things contrary do so qualify and correct the one the danger of the other's excess, that neither boldness can make us presume, as well as we are kept under with the sense of our own wretchedness; nor, while we trust in the mercy of God through Christ Jesus, fear be able to tyrannise over us! *Hooker.*

Brothers, you *mix* your sadness with some fear; This is the English not the Turkish court.

Shakspeare.

Come, phial! ———

What if this *mixture* do not work at all? *Id.*

I have chosen an argument, *mixt* of religious and civil considerations; and likewise *mixt* between contemplative and active. *Bacon's Holy War.*

To raise desert and virtue by my fortune,

Though in a low estate, were greater glory,

Than to *mix* greatness with a prince that owns

No worth but that name only. *Massinger.*

Others, perceiving this rule to fall short, have pieced it out by the *mixtion* of vacuity among bodies, believing it is that which makes one rarer than another. *Digby on Bodies.*

She turns, on hospitable thoughts intent;

What choice to choose for delicacy best,

What order, so contrived as not to *mix*

Tastes, nor well joined, inelegant, but bring

Taste after taste, upheld with kindest change. *Milton.*

But is there yet no other way, besides

These painful passages, how we may come

To death, and *mix* with our connatural dust? *Id.*

Air, and ye elements, the eldest birth

Of nature's womb, that in quaternion run

Perpetual circle, multiform; and *mix*

And nourish all things. *Id.*

They are not to be lightly passed over as elementary or subterraneous *mixtions*. *Browne.*

Neither can God himself be otherwise understood, than as a mind free and disentangled from all corporeal *mixtures*, perceiving and moving all things. *Stillingfleet.*

Cicero doubts whether it were possible for a community to exist, that had not a prevailing *mixture* of piety in its constitution. *Addison's Freeholder.*

While we live in this world, where good and bad men are blended together, and where there is also a *mixture* of good and evil wisely distributed by God, to serve the ends of his providence. *Atterbury's Sermons.*

Those liquors are expelled out of the body, which, by their *mixture*, convert the alinient into an animal liquid. *Arbuthnot.*

I, by baleful furies led,

With monstrous *mixture* stained my mother's bed. *Pope.*

The best punch depends on a proper *mixture* of sugar and lemon. *Shenstone.*

MIXTURE is a compound of several different bodies in the same mass. Simple mixture consists only in the simple apposition of parts of different bodies to each other. Thus, when powders of different kinds are rubbed together, the mixture is only simple, and each of the powders retains its particular characters. In like manner, when oil and water are mixed together, though the parts of both are confounded, so that the liquor may appear to be homogeneous, we cannot say that there is any more than a simple apposition of the parts, as the oil and water may very easily be separated. But the case is very different when bodies are chemically mixed; for then one or both bodies assume new properties, and can by no means be discovered in their proper form without a particular chemical process adapted to this purpose. Hence chemical mixture is attended with many phenomena which are never observed in simple mixtures, such as heat, effervescence, &c. To chemical mixture belongs the union of acids and alkalies, the amalgamation of metals, solution of gums, &c., and upon it depend many of the principal operations of chemistry.

MIXTURE, in pharmacy, a medicine which differs from a julep in this respect, that it receives into its composition not only salts, extracts, and other substances dissoluble in water; but also earths, powders, and such substances as cannot be dissolved.

MIZMAZE, *n. s.* Of **MAZE**, reduplicated. A cant word to express a maze, labyrinth, or any thing confused.

Those who are accustomed to reason have got the true key of books, and the clue to lead them through the *mizmaze* of variety of opinions and authors to truth. *Locke.*

MIZQUE, a province in the government of Santa Cruz de la Sierra, Peru, bounded south by the province of Yamparaes, south-west by that of Charcas, west by that of Cochabambas, and north by the Andes. It is of hot temperature, and produces wheat, maize, pulse, sugar-cane, and wine. Population 62,000. The capital is a decayed town of the same name.

MIZRAIM, or **MISRAIM**, the second son of Ham, and grandson of Noah; supposed to have

been the same with Menes, the first king of Egypt. See **EGYPT**. Hence

MIZRAIM, or **MISRAIM**, is used in scripture to denote the Higher and Lower **EGYPT**, which see. It sometimes occurs singular, Mazor: 2 Kings xix.; Isaiah xix.; Micah vii.

MIZZEN, *n. s.* Dan. and Swed. *mesan*; Ital. *mizzana*; Span. *mezana*; Belg. *bizaan*; Fr. *basenné*. The mast nearest a ship's stern.

The *mizzen* is a mast in the stern or back part of a ship: in some large ships there are two such masts; that standing next the main mast is called the main *mizzen*, and the other near the poop the bonaventure *mizzen*: the length of a *mizzen* mast is half that of the main mast, or the same with that of the main topmast from the quarterdeck, and the length of the *mizzen* topmast is half that. *Bailey.*

A commander at sea had his leg fractured by the fall of his *mizzen* topmast. *Wiseman's Surgery.*

MIZZLE, or **MISTLE**, *v. n.* From **MIST**, which see. To rain in small or dew-like drops.

A woman of fashion who is employed in remarks upon the weather, who observes from morning to noon that it is likely to rain, and from noon to night that it spits, that it *mizzles*, that it is set in for a wet evening; and, being incapable of any other discourse, is as insipid a companion, and just as pedantic, as he who quotes Aristotle over his tea, or talks Greek at a card-table. *B. Thornton.*

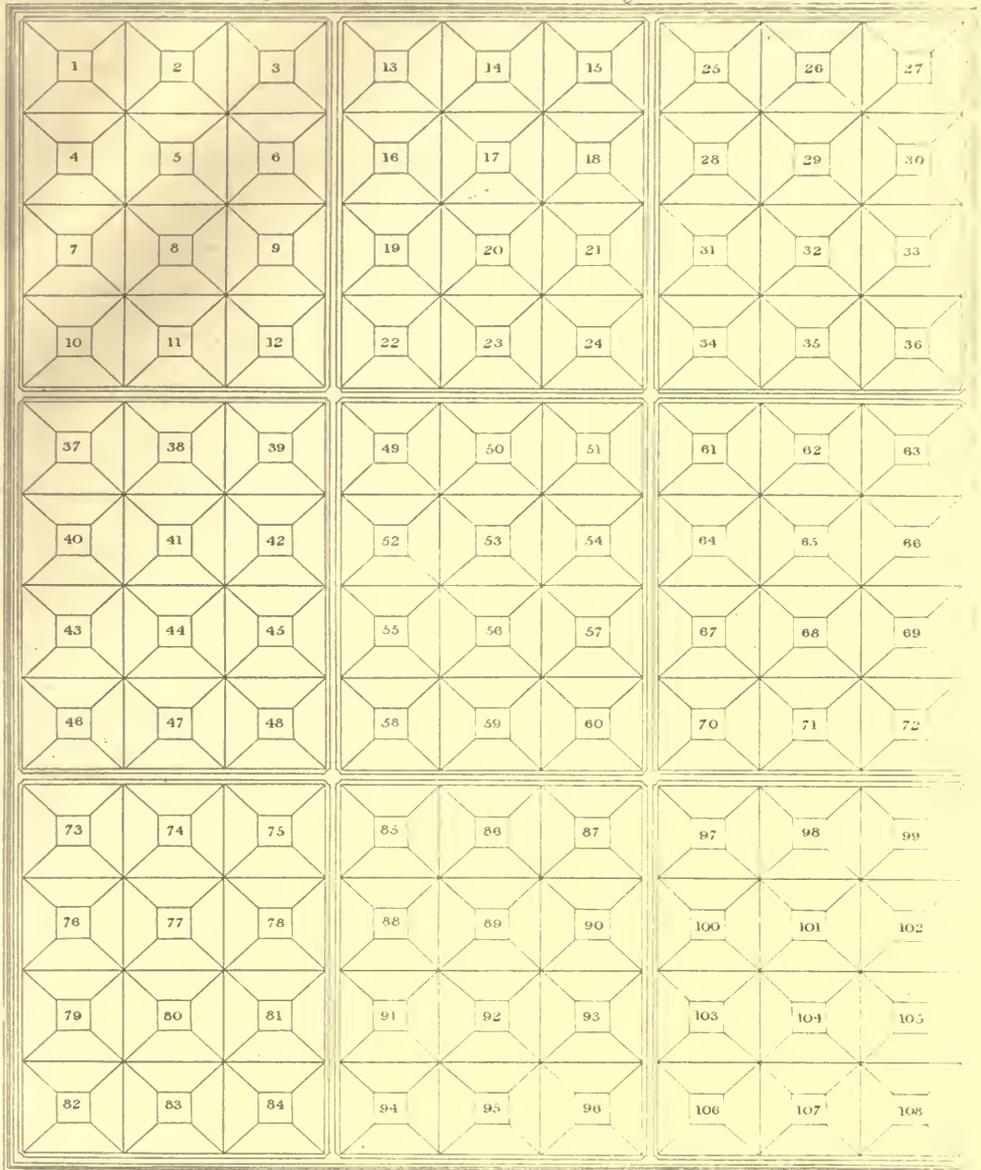
MNEMONICS, or artificial memory, had its advocates and professors in the ancient world. Herodotus tells us it was accurately taught and practised in Egypt; whence it travelled to Greece. Chiron, the astronomer, we know, also arranged the stars upon a method of this kind twelve centuries before Christ. The Romans, likewise, cultivated this art with success.—*Cic. de Rhet. lib. iii., and de Orat. lib. ii.; Quint. Inst. Orat. lib. xi.*

In modern times artificial memory has been elaborately treated by Dr. Grey, in his well known *Memoria Technica*. We have been favored, for the use of this work, with a communication from Mr. Todd, of Winchester, accompanying his splendid *Historical Tablets and Medallions, &c.*, founded on the principle, but exhibiting much more simplicity than Dr. Grey's scheme. This author quotes a happy passage from Addison, as suggesting the original idea of his work.

'There is one advantage,' says that great writer, *Dialogues upon Ancient Medals*, 'that seems to me very considerable, which is the great help to memory one finds in medals: for my own part, I am very much embarrassed in the names and ranks of the several Roman emperors, and find it difficult to recollect upon occasion the different parts of their history; but your medallists, upon the first naming of an emperor, will immediately tell you his age, family, and life. To remember where he enters in the succession, they only consider in what part of the cabinet he lies; and, by running over in their thoughts such a particular drawer, will give you an account of all the remarkable parts of his reign.' But this is not all. 'For this too,' says the same author, 'is an advantage medals have over books—that they tell their story much quicker, and sum up a whole volume in twenty

MNEMONICS.

Fig. 1. Cabinet or Associators Key.



Numerical Key.

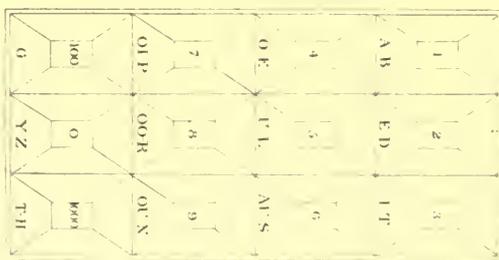


Fig. 2.

or thirty reverses. They are indeed the best epitomes in the world, and let you see, with one cast of an eye, the substance of above a hundred pages. Another use of medals is, that they not only show you the actions of an emperor, but at the same time mark out the year in which they were performed. Every exploit has its date set to it. A cabinet of medals is a body of history.'

'It was the conviction of these facts,' continues Mr. Todd, 'united with the preceding observations, that suggested the idea upon which the following tablets are founded. The theory is simply this:—Instead of a large room or building, which, as we have already explained, was formerly made use of for this purpose, there is a cabinet or associating key, Plate MNEMONICS, fig. 1, consisting of nine distinct parts, arranged and disposed in order. Each of these parts, or tablets (as they are afterwards called), is distinguished by its peculiar color, and subdivided into twelve equal squares, or compartments, the whole of which are numbered in consecutive order. Each color occurs twice, but in such regular order, and so far separated, that no mistake can easily arise: five perfectly distinct colors, thus arranged, being less liable to confusion than nine not so well contrasted. They appear thus:—

Blue.	Brown.	Green.	Pink.	Yellow.
1	2	3	4	5
6	7	8	9	

Frequently repeat these, and revolve them in your thoughts, till you have obtained such an accurate knowledge of their relative situation, as to be enabled to run them over one after another without hesitation, and in any order that may be necessary. Impress them, by these means, so strongly upon the memory, that every part, and every single square in each part, may be perfectly familiar to the mind's eye, even long after the engraving is removed. These compartments are intended, as the subsequent plates will exemplify, for the reception of one or more series of medals, properly arranged, commemorating a regular succession of events, the names of sovereigns, or other historical subjects which you may wish to remember, with the date of each attached. And it will afterwards be found almost impossible, when reviewing the several parts and subdivisions of this cabinet or key, not to associate the medal, together with its inscription, previously annexed to each particular square. A very few repetitions, with ordinary attention, will be found sufficient to impress the series almost indelibly upon the memory.

'But we shall frequently find it necessary to know and preserve something more than the mere idea of things; we shall wish for, 2. The ready and accurate remembrance of their dates: the accomplishment of which is usually found to be a very difficult and uncertain task. It will be generally admitted that there is the greatest difficulty in retaining numbers. They are like grains of sand, which will not cohere in the order in which we place them; but by transmuting figures into letters, which easily cohere in every form of combination, we fix and retain numbers in the mind with the same ease and

certainly with which we remember words; and if language could have been so contrived, that the same word, or nearly the same word, which gave the name of a thing, should also have contained its date, there would have been little, if any, difficulty in the attainment.

In the first place, then, it is necessary to learn perfectly the numerical key, Plate MNEMONICS, fig. 2, which, corresponding with the first part of the cabinet, consists of twelve squares, in each of which will be found its proper figure, together with one consonant, and one vowel, or diphthong.* These letters are to represent the figures to which they are respectively attached; so that you may be able, at pleasure, to form any number into a technical syllable, or to resolve such a syllable already formed into the number which it stands for. Thus,

10	may be represented by	<i>az</i> or <i>by</i> .
325	. . . . .	<i>tcl</i> or <i>idu</i> .
431	. . . . .	<i>fib</i> or <i>ota</i> .
1491	. . . . .	<i>afna</i> or <i>bona</i> .
200	. . . . .	<i>eg</i> .
4000	. . . . .	<i>oth</i> .

and so for any other numbers.

Now, to remember the date of any single event in history or chronology, a word is formed, the beginning of which, being invariably the first syllable or syllables of the thing for which a date is sought, will, by frequent repetition, of course suggest the latter or chronological part, which is so contrived, by the method already explained, as to give the date. Thus, the Deluge happened in the year B. C. 2348; this is signified by the technical word *Delétor*—*Del.* standing for *DELUGE*, and *étor* for 2348. So, the emperor Constantine the Great removed the seat of empire to Constantinople, A. D. 328; for this you have the word *Constánter*—*Constán.* standing for *CONSTANTINE*, and *ter* for 328. A reference to the tablets will, it is hoped, clear up any little obscurity in this description.

The situation or locality of any medal in the tablet, having already suggested the general and relative period of the event sought—which indeed will often be sufficient for the occasion—the technical word will not fail to furnish the

* Note.—The diphthongs are to be considered but as one letter, or rather as representing only one figure. Note, also, that *y* may be pronounced as *wi*, for the more easily distinguishing it from *i*; as *syf*, 603, pronounced *swit*. The letters are assigned to the figures somewhat arbitrarily; but the following reasons, trifling as they are, may contribute to impress the series more deeply on the memory. Vowels—*a, e, i, o, u*, in order, naturally represent 1, 2, 3, 4, 5. The diphthongs represent the total of the two vowels of which they are composed, as *au* (composed of *a* 1, and *u* 5,) stands for 6; and so of the rest. Consonants.—When they can be conveniently retained, the initials are made use of, as *t* for three, *f* four, *s* six, and *n* nine. The letter *p* is the emphatic letter in the Latin word *septem*, seven, and *r* may be easily remembered for eight. The first consonant *b* represents 1, and *l*, being the Roman letter for 50, stands for 5. For the cipher, 0, you have the two last letters of the alphabet, *y* and *z*. For 100 there is *g*, and *th* for thousand.

particular year in which it happened. First, the tablet: then the square; and, lastly, the word which brings the date; they are so linked together, and have been so closely associated in your mind, from first to last, that it will be almost impossible to retain a separate idea of either, unconnected with the others. Those things which are first and always seen together, learnt together, and deposited together in the mind, will not be recollected, except in the same connexion: the memory will restore with equal readiness and fidelity that which was entrusted to it with so much care, and in such particular order. And to render this connexion more complete and useful, as well as to shorten his first labor, the student should commit the technical words and lines to memory chiefly from the medals themselves, and occasionally repeat them with the tablets, either actually or mentally, before his eyes: for vision, or the sense of seeing, is to be considered throughout as the very essence of our system.

We may add, there is an appropriate explanation to each series of tablets, and the reader is assured, by way of encouragement, that the whole may be perfectly learnt, without the aid of extraordinary abilities, in the space of a few days; and, what is more, that when once well learnt, and supported by occasional practice, it will never be forgotten.

MNEMOSYNE, in the mythology, the daughter of Cœlus and Terra. She married Jupiter, by whom she had the nine Muses. Mnemosyne signifies 'memory'; and therefore the poets rightly called Memory the mother of the Muses, because it is to that mental endowment that mankind are indebted for their progress in science.

MNIUM, marsh moss, a genus of the natural order of musci, and cryptogamia class of plants. The anthera is operculated; the calyptra smooth, the female capitulum naked and powdery, remote. There are numerous species, of which several are natives of Britain; but none have any remarkable property except the two following.

M. fontanum is an elegant moss, frequent in bogs, and on the borders of cold springs. It is from two to four inches high: the stalks are simple at the base, and covered with a rusty down; but higher up are red, and divided into several round, single, taper branches, which proceed nearly from the same point. The leaves are not more than one-twelfth of an inch long, lanceolate and acute, of a whitish green color; and so thinly set that the red stalk appears between them. This moss, as it may be seen at a considerable distance, is a good mark to lead to the discovery of clear and cold springs. Linnæ informs us that the Laplanders are well acquainted with this sign. Mr. Withering informs us that, wherever this moss grows, a spring of fresh water may be found without much digging.

M. hygrometricum, grows in woods, heaths, garden-walks, walls, old trees, decayed wood, and where coals or cinders have been laid. It is stemless, has tips inversely egg-shaped, nodding, and bright yellow. If the fruit-stalk is moistened at the base with a little water or

steam, the head makes three or four revolutions: if the head is moistened, it turns back again.

MO, or MOR, *adj. & adv.* Sax. ma, mape; Goth. *mar; mer*; Scotch, *mae*. An old method of writing MONEY, which see.

And if ye vouchsaf that it be so
Telle me anon withouten wordes mo
And I wol early shapen me therefore.

Chaucer. Cant. Tales.

With oxbows, and oxyokes, with other things mo,
For oxtewn and horse teem in plough for to go.

Tusser.

Calliope and muses mo,
Soon as your oaken pipe begins to sound
Their ivory lutes lay by.

Spenser.

Sing no more ditties, sing no mo,
Of dumps so dull and heavy;

The frauds of men were ever so,

Since Summer first was leafy. *Shakespeare.*

MOAB, in ancient geography, a country of Arabia Petræa; so called from Moab the son of Lot, to whose posterity this country was allotted by divine appointment, Deut. ii. 9. It was originally occupied by the Emims, a race of giants extirpated by the Moabites, ib. 10. Moab anciently lay to the south of Ammon, before Sihon the Amorite stripped both nations of a part of their territory, afterwards occupied by the Israelites, Numb. xxii.; and then Moab was bounded by the Arnon on the north, the Asphaltites on the west, the brook Zared and the mountains Abarim on the east. See MAB.

MOAN, *v. a., v. n., & n. s.* Sax. mœnan, to grieve. To lament; express grief; grieve: as a substantive it means audible grief or lamentation; a low sorrowful noise.

I have disabled mine estate,
By shewing something a more swelling port
Than my faint means would grant continuance;
Nor do I now make moan to be abridged
From such a noble rate.

Shakespeare. Merchant of Venice.

The fresh stream ran by her, and murmured her
moans;

The salt tears fell from her, and softened the stones.
Shakespeare.

Sullen moans,

Hollow groans,

And cries of tortured ghosts. *Pope's St. Cecilia.*

The generous band redressive searched
Into the horrors of the gloomy jail,
Unpitied and unheard, where misery moans. *Thomson.*

MOAT, *n. s. & v. a.* Fr. *motte*; Span. and Port. *meta*; barb. Lat. *mota*; or, as Minshew quaintly says, 'quod sit submota terra, et immersa aqua.' A canal or ditch round a building or enclosed grounds: to surround with such a canal.

The castle I found of good strength, having a
great moat round about it, the work of a noble gen-
tleman, of whose unthrifty son he had bought it.

Sidney.

I will presently to St. Luke's; there at the moated
Grange resides this dejected Mariana.

Shakespeare. Measure for Measure.

The fortress thrice himself in person stormed;
Your valor bravely did the assault sustain,
And filled the moats and ditches with the slain.

Dryden.

An arm of Lethe, with a gentle flow,
The palace moats, and o'er the pebbles creeps,
And with soft murmurs calls the coming sleeps. *Id.*

MOAT, or ditch, in fortification. The brink of the moat, next the rampart, is called the scarp; and the opposite one, the counterscarp. A dry moat round a large place, with a strong garrison, is preferable to one full of water; because the passage may be disputed inch by inch, and the besiegers, when lodged in it, are continually exposed to the bombs, grenades, and other fire-works, which are thrown incessantly from the rampart into their works. In the middle of dry moats there is sometimes another small one, called cuneite; which is generally dug so deep till they find water to fill it. The deepest and broadest moats are accounted the best: but a deep one is preferable to a broad one: the ordinary breadth is about twenty fathoms, and the depth about sixteen. To drain a moat that is full of water, they dig a trench deeper than the level of the water, to let it run off; and then throw hurdles upon the mud and slime, covering them with earth or bundles of rushes, to make a firm passage. See **FORTIFICATION**.

MOATAZALITES, or Separatists, a religious sect among the Turks, who deny all forms and qualities in the Divine Being; or who divest God of his attributes.

MOB, *n. s.* & *v. a.* } Lat. *mobile*, moveable
MOB'ILE, } (applied metaphorically
MOBIL'ITY, } to a crowd). The crowd;
MO'LE, *v. a.* } a tumult: to overbear
with clamor: mobile (Fr. *mobile*) is also used for the crowd, but is a gallicism: mobility is used both in the literal sense of the power of being moved, activity or nimbleness; and for the populace, or crowd, 'Moved with a feather, tickled by a straw.' To mobile, written also mable, perhaps by a ludicrous allusion to the Fr. *je m'habille*, says Johnson, 'is to dress grossly or inelegantly.'

But who, oh! who, had seen the mobled queen,
Run barefoot up and down. *Shakespeare. Hamlet.*

Iron, having stood long in a window, being thence taken, and by a cork balanced in water, where it may have a free mobility, will bewray a kind of inquietude. *Wotton.*

The present age hath attempted perpetual motions, whose revolutions might out-last the exemplary mobility, and out-measure time itself.

Browne's Vulgar Errors.

She singled out with her eye as commander-in-chief of the mobility. *Dryden's Don Sebastian.*

Dreams are but interludes, which fancy makes,
When monarch reason sleeps, this mimick wakes;
Compounds a medley of disjointed things,
A court of cobblers, and a mob of kings. *Dryden.*

The mobile are uneasy without a ruler, they are restless with one. *L'Esrange.*

Long experience has found it true of the unthinking mobile, that the closer they shut their eyes the wider they open their hands. *South.*

A cluster of mob were making themselves merry with their betters. *Addison's Freeholder.*

You tell, it is ingenite, active force,
Mobility, or native power to move;
Words which mean nothing. *Blackmore.*

The Romans had the advantage by the bulk of their ships, and the fleet of Antiochus in the swiftness and mobility of theirs, which served them in great stead in the flight. *Vulthout.*

By this time I suppose you have ventured to take

your fingers out of your ears, being delivered from the deafening shouts of the most zealous mob that ever strained their lungs in the cause of religion.

Cowper's Letters.

MOBILE, a small country, post town, and port of entry, Alabama territory, on the west side of the river of the same name at its entrance into Mobile Bay; thirty-three miles north of Mobile Point, which is on the east side of the mouth of the bay, fifty west by north of Pensacola, ten W. S. W. of Blakeley, 100 by land, and 120 by water south of St. Stephen's, 170 E. N. E. of New Orleans. The site of the town is on a beautiful and extensive plain, elevated about twenty feet above the level of the river, and open to refreshing breezes from the bay, of which it commands a handsome prospect. The approach to the harbour, for vessels drawing more than eight feet of water, is circuitous and difficult. Within a low grassy island, which lies opposite to the town, there is a good shelter for vessels.

Mobile was taken possession of by the United States in 1813, at which time it contained about 100 houses, mostly mean decaying wooden buildings of one story. It has since increased considerably, and is now in a very flourishing state, and has considerable trade. It contains a Roman Catholic church, and a printing office, and is defended by a fort. The shipping owned here, in 1816, amounted to 594 tons. A steam boat was then plying between this town and St. Stephen's, and another was building, which was to ply between Mobile and New Orleans, through lake Pontchartrain.

MOBILE, a river of Alabama, which is formed by the union of the Alabama and Tombigbee. It widens into a large bay and communicates with the Gulf of Mexico.

MOBILE ISLAND, an island formed by the divided stream of the river Mobile, about twenty-six miles long, and five wide. Long. 87° 55' W., lat. 31° N.

MOBILE, PERPETUUM. See **MOTION**.

MOBILE, PRIMUM, in the ancient astronomy, was a ninth heaven or sphere, imagined above those of the planets and fixed stars. This was supposed to be the first mover, and to carry all the lower spheres round along with it; by its rapidity communicating to them a motion whereby they revolved in twenty-four hours. But the diurnal revolution of the planets is now accounted for, without the assistance of any such primum mobile.

MOCENIGO (Andrew), a native of Venice, in the sixteenth century. He served his country with zeal, being employed in various public affairs, which he managed with success. He was the author of a History of the War sustained by the Republic of Venice, in consequence of the League of Cambray, in four books, which is esteemed for its accuracy. He also wrote a Latin poem on the war with Bajazet II.

MOCCHA, a large city of the province of Yemen, Arabia, the principal port of the Red Sea. It was first visited in 1513, by Alphonso Albuquerque, but was then of little consequence. In 1610 we have the first account of any attempt to open a trade here by the British expeditions under Sharpey and Sir Henry Middleton; when

the latter was surprised, and made prisoner, with a number of his men. He afterwards compelled the government to make him redress: and ever since Mocha has continued the chief emporium of this part of the world. The Dutch first established a factory there: they were followed by the French in 1703, and soon after by the English. We had nearly monopolised the small but steady trade carrying on till 1803, when the Americans became formidable rivals in the coffee trade; and soon took off the largest quantity. We believe this was the case down to the late period of the opening of the East India trade.

The country around Mocha is a dreary plain bounded by mountains, and consisting entirely of arid sand. Around the town, indeed, date trees appear in considerable numbers; but their stunted growth shows the poverty of the soil. The climate is intensely hot. The south-east wind blows here for eight months in the year over the burning sands of the interior, and, for the other four months, a north-west wind which has passed over the sands of Arabia. The appearance of the town and its three chief minarets from the sea is handsome; all its buildings are white washed, and the dead line of the flat roofs is agreeably broken by several noble tombs. On entering the place, the filth of the streets and open spaces is sufficiently disgusting: the houses are found to be built of unburnt bricks, with little lime; and hence, if a house be awhile neglected, it becomes a heap of rubbish and mud. The dola's residence is large and lofty, having one front to the sea, and another to a square. Another side is filled up by the residence of the secretary of state, and by an extensive serai built by the Turks. The best houses are facing the sea. They have turreted tops, with ornaments in white stucco. The windows are small, and the upper ones usually circular, formed by thin strata of a transparent stone found in the neighbourhood. The interior is ill contrived, the passages being long and narrow, and the stair-cases steep. The lower ranks live in wicker huts, covered in the inside with mats, and on the outside with a little clay thatched.

The town of Mocha is supposed by lord Valentia to contain about 5000 inhabitants, and is enclosed by a wall about sixteen feet high extending for about half a mile, in nearly a straight line facing the sea. It is too thin every where to resist a cannon shot, or to bear the firing of cannon upon it; while the forts towards the sea would be levelled to the ground by a single broadside from a man of war. They chiefly serve to exclude the Wahabees, whose only mode of reducing a town is to storm it by cavalry. The garrison consists of about 200 musqueteers, and eighty horse.

The staple of Mocha is coffee, of which this part of Arabia has the most excellent in the world. It is here a small shrub, rising to the height of sixteen or eighteen feet, and having leaves about five inches long and two broad. The fruit grows in clusters, and is gathered when of a deep red. Before 1803 nearly the whole quantity was conveyed from Mocha to Jidda, whence it was conveyed to Alexandria, Constantinople, and Europe. The quantity then sent to Jidda is estimated by lord Valentia at 16,000 bales of

305 lbs. each, making 4,880,000 lbs. In 1803, when the Americans began to export it on a great scale, the competition raised the price from thirty-six or forty to fifty dollars per bale. In the following years, 8000 bales were exported by the Americans, and 2000 by the British.

At Mocha are also obtained gum arabic, myrrh, and frankincense (brought from the opposite coast of Berbera in Africa); balm of Gilead or of Mecca, a resinous juice much used in the east as a cosmetic; senna; sharks' fins; rhinoceros' horns and hides; acacia; and civet. The imports from Bombay, chiefly in grain and piece goods, are of very considerable amount. From 1802 to 1806 inclusive they were as follows:

	Sicca rupees.
1802 . . .	2,082,531
1803 . . .	1,617,650
1804 . . .	2,107,010
1805 . . .	1,768,339
1806 . . .	1,574,452
Total,	9,149,982

or about £914,998 sterling. The returns are almost entirely in money or bullion.

About 250 Banians or Gentoos merchants, who are subject to great oppression, carry on this trade: they do not venture to bring their families thither; but their profits are great: and it is considered more eligible to treat with them than with the Moors or Turks. The English pay a duty of three per cent. on the business done; but other foreigners five. A three masted vessel must pay, on its arrival, duty to the amount of 384 dollars. Those with two masts half. This however is not paid, unless something be sold. Presents are also necessary for permission to land. Long. 43° 20' E., lat. 13° 20' N.

Mocha, an uninhabited island on the coast of Chili, upwards of sixty miles in circumference. It is very fertile, and was formerly settled by the Spaniards: at present it is frequented by the whalers of the United States and England, who begin fishing here, as it is well supplied with wild dogs. Lat. 38° 40' S.

MOCHO STONE, *n. s.* From Mocha, and therefore more properly Mocha-stone.

Mocha-stones are related to the agat, of a clear horny grey, with declinations representing mosses, shrubs, and branches, black, brown, red, in the substance of the stone. *Woodward.*

MOCK, *v. a., v. n., n. s., & adj.* } Fr. *moquer*; Wel. *moccio*; Gr. *μωκαω*. To imitate in derision; to mimic; ridicule: hence to deceive by false appearances or pretensions; delude; tantalise: as a neuter verb, to make contemptuous sport: as a substantive it signifies ridicule; contempt; sneer; gibe; mimicry: mockable is exposed or liable to derision: mocker, one who practises it; a scorner; scoffer: mockery, derision; scorn; insulting imitation or merriment; vain attempt, or show: mocking-bird, a species of parrot, remarkable for imitating other birds: mockingly contemptuously; insultingly; delusively.

I am as one *mocked* of his neighbour; the just upright man is *mocked* to scorn.

Job xii. 4.

Fools make a *mock* at sin.

Prov. xiv. 9.

Of the holy place they made a *mockery*.

2 Mac. viii. 17.

The forlorn maiden whom your eyes have seen,
The laughing-stock of fortune's *mockeries*,
And the only daughter of a king and queen.

Faerie Queene.

A new method they have of turning things that are serious into *mockery*; an act of contradiction by way of scorn, wherewith we were long sithence forewarned.

Hooker.

Many thousand widows

Shall this his *mock* mock out of their dear husbands;

Mock mothers from their sons, *mock* castles down.

Shakspeare.

Our very priests must become *mockers*, if they shall encounter such ridiculous subjects as you.

Id.

MOCKING BIRD (*turdus polyglottus*). This capricious little mimic is of a cinereous color; paler beneath. It inhabits America from New England to Brazil, but is rare and migratory in the Northern States, whilst it is common and resident in the Southern. This bird, although it cannot vie with most of the American species in brilliancy of plumage, is much sought for on account of its wonderful faculty of imitating the tone of every inhabitant of the woods, from the twitter of the humming-bird to the scream of the eagle. But its notes are not entirely imitative; its own song is bold, full, and exceedingly varied, during the utterance of which it appears in an ecstasy of delight. In confinement, it loses little of its power or energy. To use the words of Wilson, "He whistles for the dog; Cæsar starts up, wags his tail, and runs to meet his master. He squeaks out like a hurt chicken, and the hen hurries about, with hanging wings and bristled feathers, clucking, to protect her injured brood. The barking of the dog, the mewing of the cat, the creaking of the passing wheelbarrow, follow with great truth and rapidity. He repeats the tune taught him by his master, though of considerable length, fully and faithfully. He runs over the quiverings of the canary, or the clear whistlings of the Virginia nightingale or red-bird, with such superior execution and effect, that the mortified songsters feel their own inferiority, and become altogether silent; while he seems to triumph in their defeat, by redoubling his exertions."—The female lays from four to five eggs, of an ash-blue color, marked with patches of brown; she incubates fourteen days, and is extremely jealous of her nest, being very apt to desert it if much disturbed. During the period when the young are in the nest, neither cat, dog, or man can approach it without being attacked. When intended for the cage, they are taken from the nest when they are very young, or at a later period by trap-cages.

MOCKEL, *adj.* The same with mickle. See **MICKLE**. It is variously written mickle, mickel, mochil, mochel, muckle. Much; many.

The body bigg, and nightly pight,
Thoroughly rooted, and wondrous height,
Whilom had been the king of the field,
And *mockell* mast to the husband did yield.

Spenser.

MOCWANPOOR, a district of Northern Hindostan, situated between 27° and 28° of N. lat., and bounded to the south by the districts of Bettiah and Tirhoot in Bahar. The fertile valley of this name is of no great extent, not stretching further to the eastward than six or seven miles, and terminating near Nagdeo on the Hettowrah side. It yields abundance and great variety of rice, and the cultivators enjoy considerable immunities from the Nepal government, to which the district belongs. The ancient rajah was deposed by the Goorkhalies.

MOCWANPOOR, a town in Northern Hindostan, the capital of the district of the same name, stands in lat. 27° 28' N., long. 85° 18' E. The hill fort is distinguishable by the naked eye from the banks of the Kurrah, and is a place of strength. When the Nepaulese were pressed by the Chinese, the regent and some of the principal chiefs despatched a great part of their valuable property to this fort; and in 1762 Cossim Ali's general, Goorgeen Khan, made an attempt on it, but did not succeed.

MODE, *n. s.* } *Fr. mode, modale; Ital.*

MO'DAL, *adj.* } *modo; Lat. modus, modalis.*

MODALITY, *n. s.* } Form; fashion; custom; manner; way; outward variety; degree; gradation; state as to outward things: modal is relating to the form or manner, as distinct from the essence of a subject or thing: modality, external or accidental difference.

My death

Changes the *mode*: for what in me was purchased,
Falls upon thee in a much fairer sort,
For thou the garland wearest successively.

Shakspeare.

When we speak of faculties of the soul, we assert not with the schools their real distinction from it, but only a *modal* diversity.

Glanville.

The duty itself being resolved upon, the *mode* of doing it may easily be found.

Taylor's Guide.

There are certain garbs and *modes* of speaking which vary with the times; the fashion of our clothes being not more subject to alteration than that of our speech.

Denham.

Our Saviour beheld

A table richly spread, in regal *mode*,
With dishes piled.

Milton's Paradise Regained.

They were invited from all parts; and the favour of learning was the humour and *mode* of the age.

Temple.

The motions of the mouth by which the voice is discriminated, are the natural elements of speech; and the application of them in their several compositions, or words made of them, to signify things, or the *modalities* of things, and so to serve for communication of notions, is artificial.

Holder.

We are to prefer the blessings of Providence before the splendid curiosities of *mode* and imagination.

L'Estrange.

As we see on coins the different faces of persons, we see too their different habits and dresses, according to the *mode* that prevailed.

Addison on Medals.

What *modes* of sight betwixt each wide extreme,
The mole's dim curtain, and the lynx's beam;
Of smell, the headlong lioness between,
And hound sagacious on the tainted green.

Pope.

If faith itself has different dresses worn,
What wonder *modes* in wit should take their turn?

Id.

A *mode* is that which cannot subsist in and of itself, but is always esteemed as belonging to, and subsisting by, the help of some substance, which, for that reason, is called its subject. *Watts's Logic.*

Few allow *mode* to be called a being in the same perfect sense as a substance is, and some *modes* have evidently more of real entity than others.

Watts.

Though wrong the *mode*, comply; more sense is shewn

In wearing others follies than your own. *Young.*

MODE, or MOOD, in GRAMMAR. See that article.

MODE, in metaphysics, seems properly to denote the manner of a thing's existence: but Mr. Locke uses the word in a sense somewhat different from its ordinary signification. 'Such complex ideas, which, however compounded, contain not in them the supposition of subsisting by themselves, but are considered as dependencies on, or affections of substances,' he calls modes. Of these there are two sorts; First, those which are only variations, or different combinations of the same simple idea, without the mixture of any other, as a dozen or a score; which are nothing but the ideas of so many distinct units added together: these he calls simple modes. Secondly: There are others compounded of simple ideas of several kinds put together to make one complex one; v. g. beauty, consisting of a certain composition of color and figure, causing delight in the beholder: theft, which being the concealed change of the possession of any thing without the consent of the proprietor, contains, as is visible, a combination of several ideas of several kinds; and these he calls mixed modes.

MODE, in music, a regular disposition of the air and accompaniments relative to certain principal sounds upon which a piece of music is formed, and which are called the essential sounds of the mode. There is this difference between the mode and the tone, that the latter only determines the principal sound, and indicates the place which is most proper to be occupied by that system which ought to constitute the bass of the air; whereas the former regulates the thirds, and modifies the whole scale agreeably to its fundamental sounds. Our modes are not, like those of the ancients, characterised by any sentiment which they tend to excite, but result from our system of harmony alone. The sounds essential to the mode are three, and form together one perfect chord. 1. The tonic or key, which is the fundamental note both of the tone and of the mode: See TONE and TONIC. 2. The dominant, which is a fifth from the tonic. 3. The mediant which properly constitutes the mode, and which is a third from the same tonic. As this third may be of two kinds, there are of consequence two different modes. When the mediant forms a greater third with the tonic the mode is major; when the third is lesser, it is minor. The major mode is immediately generated by the resonance of sounding bodies, which exhibit the third major of the fundamental sound; but the minor mode is not the product of nature; it is only found by analogy and inversion. This is equally true upon the system of Sig. Tartini as upon that of M. Rameau. This last author has

explained the origin of this minor mode in different ways, of which his interpreter M. d'Alembert was satisfied with none. For this reason he has founded this origin on a different principle. See MUSIC. When the mode is once determined, every note in the scale assumes a mean expressive of its relation to the fundamental sound, and peculiar to the place which it occupies in that particular mode. We subjoin the names of all the notes significant of their relative values and places in each particular mode, taking the octave at ut as an example of the major mode, and of la as an example of the minor.

Major, ut	re	mi	fa	sol	la	si	ut
Minor, la	si	ut	re	mi	fa	sol	la
	Tonic.	Second Note.	Mediant. Sub-dominant. or Fourth Note.	Dominant.	Sub-dominant. or Sixth Note.	Seventh Note.	Octave.

When the seventh note is only a semitone distant from the highest in the octave, i. e. when it forms a third major with the dominant, as si natural in the major mode, or sol sharp in the minor, that seventh sound is then called a sensible note, because it discovers the tonic and renders the tone appreciable. Nor does each gradation only assume that name which is suitable to it; but the nature of each interval is determined according to its relation to the mode. The rules established for this are as follows: 1. The second note must form a second major above the tonic, the fourth note and the dominant should form a fourth and fifth exactly true; and this equally in both modes. 2. In the major mode, the mediant or third, the sixth and the seventh from the tonic, should always be major; for by this the mode is characterised. For the same reason these three intervals ought always to be minor in the minor mode; nevertheless, as it is necessary that the sensible note should likewise there be perceived, which cannot be effectuated without a false relation whilst the sixth note still remains minor; this occasions exceptions, of which, in the course of the air or harmony, care must be taken. But it is always necessary that the cleff, with its transpositions, should preserve all the intervals, as determined with relation to the tonic according to the species of the mode. (See *Cleff*, in Rouseau's Musical Dictionary.) As all the natural chords in the octave of ut give, with relation to that tonic, all the intervals prescribed for the major mode, and as the case is the same with the octave of la for the minor mode, the preceding example may serve as a formula for the rule of the intervals in each mode. This rule has its source in the generation of harmony. If you give a perfect major chord to the tonic, to the dominant, and the sub-dominant, you will have all the sounds of the diatonic scale for the major mode; to obtain that of the minor, leaving still its third major to the dominant, give a third minor to the two other chords. Such is the analogy of the mode. There are properly only two modes; but there are twelve different sounds in

the octave which may be made fundamental sounds, and of consequence form as many keys or tones; and, as each of these tones is susceptible of the major or minor mode, music may be composed in twenty-four modes. Nay, in the manner of writing music, there are even thirty-four possible modes; but in practice ten are excluded; which, when thoroughly examined, are nothing but a repetition of the other ten, under relations much more difficult, in which all the chords must change their names, and where it must cost any one some trouble to know what he is about. Such is the major mode upon a note raised above its natural pitch by a semitone, and the minor mode upon a note depressed by a semitone. The composer does not always continue in the same mode, nor in the same key, in which he has begun an air; but, whether to alter the expression or introduce variety, modes and keys are frequently changed, according to the analogy of harmony; yet always returning to those which have been first heard; this is called modulation. Thence arises a new division of modes into such as are principal and such as are relative; the principal is that in which the piece begins and ends; the relative modes are such as the composer interweaves with the principal in the flow of the harmony. Others have proposed a third species, which they call a mixed mode, because it participates the modulation of both the others, or rather because it is composed of them; a mixture which they did not reckon an inconvenience, but rather an advantage, as it increases the variety and gives the composer a greater latitude both in air and harmony. This new mode, not being found by the analysis of the three chords, like the two former, is not determined, like them, by harmonies essential to the mode, but by an entire scale which is peculiar to itself, as well in rising as descending; so that, in the two modes above-mentioned, the scale is investigated by the chords, and in this mixed mode the chords are investigated by the scale. The following notes exhibit the form of this scale in succession, as well rising as descending, *mi fa sol la si ut re mi*. Of which the essential difference is, as to the melody, in the position of the two semitones; of which the first is found between the first and the second note, and the last between the fifth and sixth; and, with respect to the harmony, the difference consists in this, that upon its tonic it carries a third minor in the beginning, and major in ending, in the accompaniment of this scale, as well in rising as descending.

MOD'EL, *n. s. & v. a.* } Fr. *modele, modeler*;
 MOD'ELLER, *n. s.* } Lat. *modulus*. Outward representation; pattern; mould; representation: to model is to shape after a pattern; mould; form: a modeller, one who plans, contrives, or shapes the outward forms of things.

A fault it would be if some king should build his mansion-house by the *model* of Solomon's palace.

Hooker.

I'll draw the form and *model* of our battle;
 Limit each leader to his several charge,
 And part in just proportion our small strength.

Shakspeare.

I have commended to his goodness
 The *model* of our chaste loves, his young daughter.

Id.

England! *model*'d to thy inward greatness,
 Like little body with a mighty heart.

Id.

They cannot see sin in those means they use, with
 intent to reform, to their *models* what they call reli-
 gion.

King Charles.

When they come to *model* heaven,
 And calculate the stars, how they will wield
 The mighty frame.

Milton's Paradise Lost.

Our great *modellers* of gardens have their inaga-
 zines of plants to dispose of.

Spectator.

You have the *models* of several ancient temples,
 though the temples and the gods are perished.

Addison.

The government is *modelled* after the same manner
 with that of the Cantons, as much as so small a com-
 munity can imitate those of so large an extent.

Id. on Italy.

As he who presumes steps into the throne of God,
 so he that despairs measures providence by his own
 little contracted *model*.

South.

People seldom improve when they have no other
model but themselves to copy after.

Goldsmith.

MODEL is particularly used in building, for an artificial pattern made of wood, stone, plaster, or other matter, with all its parts and proportions, for the better conducting and executing some great work, and to give an idea of the effect it will have in large. In all great buildings, it is much the surest way to make a model in relievo, and not to trust to a bare design or draught. There are also models for the building of ships, &c., and for extraordinary staircases, &c. They also use models in painting and sculpture; whence, in the academies, they give the term model to a naked man, disposed in several postures, to afford an opportunity to the scholars to design him in various views and attitudes.

Models, in imitation of any natural or artificial substance, are most usually made by means of moulds composed of plaster of Paris. For the purpose of making these moulds, this kind of plaster is much more fit than any other substance, on account of the power it has of absorbing water, and soon condensing into a hard substance, even after it has been rendered so thin as to be of the consistence of cream. This happens in a shorter or longer time as the plaster is of a better or worse quality; and its good or bad properties depend very much upon its age, to which, therefore, particular regard ought to be had. It is sold in the shops at very different prices; the finest being made use of for casts, and the middling sorts for moulds. It may be very easily colored by almost any kind of powder excepting what contains an alkaline salt; for this would chemically decompose the substance of it, and render it useless. A very considerable quantity of chalk would also render it soft and useless, but lime hardens it to a great degree. The addition of common size will likewise render it much harder than if mere water is made use of. In making either moulds or models, however, the mixture must not be made too thick at first; for if this is done, and more water added to thin it, the composition must always prove brittle and of a bad quality. The particular manner of making models, or casts, as they are called, de-

depends on the form of the subject to be taken. The process is easy where the parts are elevated only in a slight degree, or where they form only a right or obtuse angle with the principal surface from which they project; but where the parts project in smaller angles, or from curves inclined towards the principal surface, the work is more difficult. This observation, however, holds good only with regard to hard and inflexible bodies; for such as are soft may often be freed from the mould, even though they have the shape last mentioned. The moulds are to be made of various degrees of thickness, according to the size of the model to be cast; and may be from half an inch to an inch, or, if very large, an inch and a half. Where a number of models are to be taken from one mould, it is necessary to have it of a stronger texture than where only a few are required.

MODELS OF LIVING PERSONS. Besides the models which are taken from inanimate bodies, it has been frequently attempted to take the exact resemblance of people while living, by using their face as the original of a model, whence to take a mould; and the operation, however disagreeable, has been submitted to by persons of the highest ranks in life. A considerable difficulty occurs in this, however, by reason of the person's being apt to shrink and distort his features when the liquid is poured upon him; neither is he altogether without danger of suffocation unless the operator well understands his business. To avoid the former inconvenience it will be proper to mix the plaster with warm instead of cold water, by which means the person will be under no temptation to shrink; and, to prevent any danger of a fatal accident, the following method is to be practised:—Having laid the person horizontally on his back, the head must first be raised by a pillow to the exact position in which it is naturally carried when the body is erect; then the parts to be represented must be very thinly covered over with fine oil of almonds by a painter's brush; the face is then to be first covered with fine fluid plaster, beginning at the upper part of the forehead, and spreading it over the eyes, which are to be kept closed, yet not so strongly as to cause any unnatural wrinkles. Cover then the nose and ears, plugging first up the meatus and torii with cotton, and the nostrils with a small quantity of tow rolled up, of a proper size, to exclude the plaster. During the time that the nose is thus stopped, the person is to breathe through the mouth: in this state the fluid plaster is to be brought down low enough to cover the upper lip, observing to leave the rolls of tow projecting out of the plaster. When the operation is thus far carried on, the plaster must be suffered to harden; after which the tow may be withdrawn, and the nostrils left free and open for breathing. The mouth is then to be closed in its natural position, and the plaster brought down to the extremity of the chin. Begin then to cover that part of the breast which is to be represented, and spread the plaster to the outsides of the arms and upwards in such a manner as to meet and join that which is previously laid on the face: when the whole of the mass has acquired its due hardness it is to be cautiously

lifted without breaking. After the mould is constructed it must be seasoned with linseed oil, litharge, &c.; and when the mould is cast it is to be separated from the model by means of a small mallet and chisel. The eyes, which are necessarily shown closed, are to be carved, so that the eye-lids may be represented in an elevated posture; the nostrils hollowed out; and the back part of the head, from which, on account of the hair, no mould can be taken, must be finished according to the skill of the artist. The edges of the model are then to be neatly smoothed off, and the bust fixed on its pedestal.

When models are made of such large objects, that the model itself must be of considerable size, it is vain to attempt making it in the way above described. Such models must be constructed by the hand with some soft substance, as wax, clay, putty, &c.; and, it being necessary to keep all the proportions with mathematical exactness, the construction of a single model of this kind must be a work of great labor and expense, as well as of time. A beautiful model was made, in wood, of the New Town of Edinburgh, before it was begun to be built. A model was also made of a bridge over the Neva, of uncommon strength as well as elegance. But, of all the models which have been undertaken by human industry, perhaps the most remarkable is that which was constructed by general Pfiffer, to represent the mountainous parts of Switzerland. It was composed of 142 compartments, of different sizes and forms, respectively numbered, and so artfully put together that they could be separated and replaced with the greatest ease. The model itself was twenty feet and a half long, and twelve broad, and formed on a scale which represented two English miles and a quarter by an English foot; comprehending part of the cantons of Zug, Zurich, Schweitz, Underwalden, Lucerne, Berne, and a small part of the mountains of Glarus; in all, an extent of country of eighteen leagues and a half in length and twelve in breadth. The highest point of this model, from the level of the centre, which is the lake of Lucerne, was about ten inches; and as the most elevated mountain represented therein rises 1475 toises, or 9440 feet, above the lake of Lucerne, at a gross calculation, the height of an inch in the model was about 900 feet. The whole was painted of different colors, in such a manner as to represent objects as they exist in nature. So minute also was the accuracy of the plan that it comprised not only all the mountains, lakes, rivers, towns, villages, and forests, but every cottage, bridge, torrent, road, and even every path. The principal materials employed in the construction of this extraordinary model were a mixture of charcoal, lime, clay, a little pitch, with a thin coat of wax; and it was so hard that it might be trod upon without damage. It was begun in 1766, when the general was about fifty years of age, and employed him till August 1785; during all which long space of time his task was not only most laborious, but even dangerous. He raised the plans with his own hands on the spot, took the elevation of mountains, and laid them down in their several proportions. In the prosecution of this employ-

ment he was twice arrested as a spy; and, in the popular cantons, was frequently forced to work by moonlight, in order to avoid the jealousy of the peasants, who imagined that their liberty would be endangered should such a plan of their country be taken. Being often obliged to remain on the tops of some of the Alps, where no provisions could be procured, he took along with him a few milch goats. When any part was finished he sent for the people residing near the spot, and desired them to examine each mountain with accuracy, to see whether it corresponded, as far as the smallness of the scale would admit, with its natural appearance; and then, by frequently retouching, he corrected the deficiencies. Even after the model was finished he continued his Alpine expeditions with the same ardor as ever, and with a degree of vigor that would fatigue a much younger person. All his elevations were taken from the level of the lake of Lucerne: which, according to Saussure, is 1408 feet above the level of the Mediterranean.

In *painting* this is the name given to a man or woman who is procured to exhibit him or herself in a state of nudity for the advantage of the students. These models are provided in all academies and schools for painting, and it is customary for the students who have acquired a tolerable use of the pencil to be introduced to this kind of study, and urged to exertion and emulation in it. By this means the details and proportions of the human shape, the play of the muscles, the varieties of expression, &c., are displayed and inculcated far better than by any course of lectures or any study of former works. The term model is, however, at the same time extended to the great masters and to their admirable performances, and it is clear that the enlarged meaning we first applied to it fully warrants such an extension.

It is desirable that the living models used in an academy, or even in a private painting room, should be changed as frequently as possible, or the student is in danger of falling into mannerism. Millin speaks of a model, of the name of Deschamps, who did duty in this way upwards of forty years in the academy at Paris, and grows quite facetious in alluding to the facility with which this person's form and features might be recognised, in every variety of subject or of expression, in all the paintings of the students of that period.

MODENA, a duchy of Italy, extending between the Po and the Appennines, which bound it north and south; or from long. $9^{\circ} 54'$ to $11^{\circ} 20'$ E., and from lat. $44^{\circ} 6'$ to $44^{\circ} 55'$ N. It is bounded east by the states of the church, and west by Parma, and is an inland tract of country, eighty-four miles in length, with a medium breadth of twenty-five. The territory, strictly speaking, consists only of the six districts of Modena, Reggio, Mirandola, Correggio, Carpi, and Navellara; but the principality of Massa and Carrara will by law revert, on the death of its present sovereign, to the house of Modena. The extent and population of the six districts of Modena Proper is 1740 square miles, with 332,000 inhabitants; Massa and Carrara is 320 square miles, with 38,000 inhabitants. Total 2060

square miles, and 370,000 inhabitants. The chief towns are Modena, having 20,000 inhabitants; Reggio 13,300; Massa 10,000; Mirandola 8200; Navellara 4100; Correggio 3500.

The country is one gently undulating plain, rising into considerable elevations, but not mountainous, except in the southern provinces, where it is traversed by the Appennines. Its rivers are the Po, the Crostolo, the Panaro, and the Secchia, and a number of small tributary streams and rivulets. The climate is beautifully mild and clear, and the soil rich and fruitful, except in the higher districts, in corn, wine, olives, mulberry-trees, hemp, and pasturage, but the corn raised is not equal to the consumption. Cattle are reared in large numbers; bees likewise are objects of attention; but the chief article of culture and manufacture is silk. The other manufactures consist of canvas, leather, paper, and glass. The best marble of Italy is found at Carrara, and a kind of mineral oil (*olio di fossa*) in various subterraneous cavities; also amber and petroleum.

This duchy forms a small independent state, possessed in full sovereignty by the archduke of Este. The revenue is £140,000 sterling, and the regular troops 1500 men. The family is one of the most ancient in Europe. In 1796 the duke was expelled by the French, and soon after resigned his claims in favor of his son-in-law the archduke Ferdinand of Austria. In the treaty of Campo Formio, the Modenese possessions were incorporated with the Cisalpine republic, and the archduke received as an indemnity the Brigall and Ortenall in Suabia. In 1814 the congress of Vienna restored to the archduke Francis of Este the territory of Modena, with the limits which it had before the peace of Campo Formio; and gave to his mother, the archduchess Maria Beatrix, the duchy of Massa and principality of Carrara, to revert, on the death of the archduchess, to her son.

MODENA, the capital of the above duchy, is situated in a delightful valley between the Panaro and Secchia. It has a citadel, and is surrounded with ramparts, which together however have little strength. The houses are well built, and the streets clean and regular. The finest is the Strada Maestra, but almost all of them are bordered with arcades. The population is about 20,000. The best public building is the ducal palace, situated in a large square. The cathedral is a mean Gothic building, only remarkable for its marble tower, said to be one of the highest in Italy. The other churches claim little attention, with the exception of those of St. Vincenzo and St. Agostino. The college is spacious and handsome; its library containing about 80,000 volumes, among which are many rare editions of the fifteenth century, and several valuable MSS. The traveller finds here better inns and baths than in most other places in Italy. The trade is not considerable. It is twenty-two miles W. N. W. of Bologna, and thirty E. S. E. of Parma.

MODERATE, <i>adj.</i> & <i>v. a.</i>	} Fr. <i>modéré</i> ; } Ital. <i>moderato</i> ; } Lat. <i>moderatus</i> . } Temperate; so-
MODERATELY, <i>adv.</i>	
MODERATENESS, <i>n. s.</i>	
MODERATOR.	

ber; qualified; reasonable; mild; not in an extreme: hence to regulate; restrain; pacify; qualify; repress: the *adv.* & *n. s.* corresponding: a moderator is a person who acts with a view to calm or restrain others; and particularly one who presides with this view at a disputation or discussion.

Sound sleep cometh of moderate eating, but pangs of the belly are with an insatiable man.

Eccles. xxxi. 20.

With equal measure she did moderate

The strong extremities of their rage. *Spenser.*
Was it the purpose of these churches, which abolished all popish ceremonies, to come back again to the middle point of evenness and moderation?

Hooker.

There's not so much left as to furnish out
A moderate table. *Shakspeare. Timon of Athens.*
Sometimes the moderator is more troublesome than the actor. *Bacon's Essays.*

Sorrows, because they are lingering guests, I will entertain but moderately; knowing, that the more they are made of, the longer they will continue.

Bp. Hall.

Equally inured

By moderation either state to bear.

Prosperous or adverse. *Milton's Paradise Lost.*

Angling was, after tedious study, a calmer of unquiet thoughts, a moderator of passions, and a procurer of contentedness. *Walton.*

How does Philopolis seasonably commit the opponent with the respondent, like a long-practised moderator?

More.

Each nymph but moderately fair,

Commands with no less rigor here. *Waller.*

More moderate gifts might have prolonged his date,

Dryden.

Too early fitted for a better state.

These are tenets which the moderatest of the Romanists will not venture to affirm. *Smatridge.*

Ye swarthy nations of the torrid zone,

How well to you is this great bounty known!

For frequent gales from the wide ocean rise

To fan your air, and moderate your skies.

Blackmore.

A zeal in things pertaining to God, according to knowledge, and yet duly tempered with candour and prudence, is the true notion of that much talked of, much misunderstood virtue, moderation.

Atterbury.

By its astringent quality it moderates the relaxing quality of warm water. *Arbuthnot on Aliments.*

Blood in a healthy state, when let out, its red part should congeal strongly and soon, in a mass moderately tough, and swim in the serum. *Id.*

In moderation placing all my glory,

While Tories call me Whig, and Whigs a Tory.

Pope.

Fixed to one part, but moderate to the rest. *Id.*

A number of moderate members managed with so much art as to obtain a majority, in a thin house, for passing a vote, that the king's concessions were a ground for a future settlement. *Swift.*

The first person who speaks when the court is set, opens the case to the judge, chairman, or moderator of the assembly, and gives his own reasons for his opinion. *Watts.*

Whilst shame keeps its watch, virtue is not wholly extinguished from the heart, nor will moderation be utterly exiled from the minds of tyrants. *Burke.*

MOD'ERN, *adj.* & *n. s.*

MOD'ERNISE, *v. a.*

MOD'ERNISM, *n. s.*

MOD'ERNNESS, *n. s.*

Fr. *moderne*; Ital. Span. and Port. *moderno*; barb. Lat. *modernus*, either a

corruption of *hodiernus*, 'vel potius ab adverbio *modò*, *modernus*, ut à *die diurnus*.' Late; recent; arising in late time: Shakspeare uses it for vulgar, common: as a substantive it is chiefly used in the plural, for those who live or have lived in recent times: to modernise is to adapt something ancient to modern form or usage: a modernism is something unduly modern or unclassical, being itself 'a modernism' of Swift's: modernness, lateness; novelty.

Trifles, such as we present modern friends withal.

Shakspeare.

The justice,

With eyes severe and beard of formal cut,

Full of wise saws and modern instances. *Id.*

Some of the ancient, and likewise divers of the modern writers, that have laboured in natural magic, have noted a sympathy between the sun and certain herbs. *Bacon.*

There are moderns who, with a slight variation, adopt the opinion of Plato. *Boyle on Colours.*

The glorious parallels then downward bring

To modern wonders, and to Britain's king.

Prior.

Some by old words to fame have made pretence; Antients in phrase, mere moderns in their sense!

Pope.

Scribblers send us over their trash in prose and verse, with abominable curtailings and quaint modernisms. *Swift.*

In this part of our work, where caprice has long wantoned without control, and vanity sought praise by petty reformation, I have endeavoured to proceed with a scholar's reverence for antiquity. I have attempted a few alterations, and among these perhaps the greatest part is from the modern to the ancient practice. *Dr. Johnson's Preface to Dictionary.*

MOD'EST, *adj.*

MOD'ESTLY, *adv.*

MOD'ESTY, *n. s.*

MODESTY-PIECE.

Fr. *modeste*; Ital. Span.

and Port. *modesto*; Lat.

modestus, from *modus*.

Strictly; in the perfect

mode or right manner: chaste; becoming; moderate; not forward, impudent, or presuming: modesty is opposed, therefore, both to arrogance and looseness, or licentiousness of behaviour: modesty-piece is defined in the extract.

They cannot with modesty think to have found out absolutely the best which the wit of man may devise. *Hooker.*

Resolve me with all modest haste, which way Thou mightest deserve, or they impose this usage.

Shakspeare.

Mrs. Ford, the honest woman, the modest wife; the virtuous creature, that hath the jealous fool to her husband. *Id.*

Bid the cheek be ready with a blush

Modest as morning, when she coldly eyes

The youthful Phœbus.

Id. Troilus and Cressida

A lord will hear you play;

But I am doubtful of your modesties,

Lest over-eying of his odd behaviour,

You break into some merry passion.

Shakspeare.

True piety is modest, and stands not upon terms of reputation, in the business of God. *Bp. Hall.*

Poverty is like a girdle about our loins, it binds hard, but it is modest and useful. *Jer. Taylor.*

Her face, as in a nymph, displayed

A fair fierce boy, or in a boy betrayed

The blushing beauties of a modest maid.

Dryden.

During the last four years, by a *modest* computation, there have been brought into Brest above six millions sterling in bullion. *Addison.*

A narrow lace which runs along the upper part of the stays before, being a part of the tucker, is called the *modesty-piece.* *Id.*

Tho' learned, well-bred; and tho' well-bred, sincere,

Modestly bold, and humanly severe. *Pope.*

First he *modestly* conjectures,
His pupil might be tired with lectures:
Which helped to mortify his pride,
Yet gave him not the heart to chide. *Swift.*

Of boasting more than of a tomb afraid;

A soldier should be *modest* as a maid. *Young.*
Talk not to a lady in a way that *modesty* will not permit her to answer. *Clarissa.*

MODICA, a district and town of southern Sicily, in the Val di Noto: the district, about thirty miles in length and ten in breadth, contains five other good towns, and about 80,000 inhabitants. It has an independent court of justice. The town is situated on the river Scieli, and surrounded by some of the most imposing scenery of this beautiful island; where the fruits of almost all climates mingle, and the corn, wine, and oil are abundant. Its manufactures are chiefly domestic, and the inhabitants are largely connected with agriculture. They are said to amount to upwards of 20,000. It is thirty miles W. S. W. of Syncum, and forty-five S. S. W. of Catania.

MODICUM. Lat. *modicum*. A small portion or pittance.

What *modicums* of wit he utters: his evasions have ears thus long. *Shakspeare. Troilus and Cressida.*

Though hard their fate,

A cruise of water, and an ear of corn,
Yet still they grudged that *modicum*. *Dryden.*

Though nature weigh our talents, and dispense

To every man his *modicum* of sense,
And conversation in its better part
May be esteemed a gift, and not an art,
Yet much depends, as in the tiller's toil,
On culture and the sowing of the soil. *Cowper.*

MODIFY, *v. a. & v. n.* } Fr. *modifier*, of
MODIFI'ABLE, or } Lat. *modo* and *facere*.
MODIF'ICABLE, *adj.* } To change the mode,
MODIFICA'TION, *n. s.* } external shape, or qualities of a thing: hence to soften; to moderate; and, as a neuter verb, to extenuate: the adjective and noun substantive follow these significations.

Yet there is that property in all letters, of aptness to be conjoined in syllables and words through the voluble motions of the organs, that they *modify* and discriminate the voice without appearing to discontinue it. *Holder.*

The chief of all signs is human voice, and the several *modifications* thereof by the organs of speech, the letters of the alphabet, formed by the motions of the mouth. *Id.*

Of his grace

He modifies his first severe decree,
The keener edge of battle to rebate. *Dryden.*

After all this descanting and *modifying* upon the matter, there is hazard on the yielding side. *L'Estrange.*

It appears to be more difficult to conceive a distinct, visible image in the uniform, invariable essence of God, than in variously *modifiable* matter; but the manner how I see either still escapes my comprehension. *Locke.*

The middle parts of the broad beam of white light which fell upon the paper, did, without any confine of shadow to *modify* it, become coloured all over with one uniform colour, the color being always the same in the middle of the paper as at the edges. *Newton.*

If these powers of cogitation, volition and sensation, are neither inherent in a matter as such, nor acquirable to matter by any motion and *modification* of it, it necessarily follows that they proceed from some cogitative substance, some incorporeal inhabitant within us, which we call spirit. *Bentley.*

As the generality of meat-roasting, with its several *modifications*, as to beef, mutton, pullets, &c., does not inhere in any one part of the jack; so neither does consciousness, with its several modes of sensation, intellection, volition, &c., inhere in any one, but is the result from the mechanical composition of the whole animal. *Pope.*

MODILLON. Fr. *modillon*; Lat. *modiolus*. A kind of bracket.

The *modillions* or *dentelli* made a noble show by graceful projections. *Spectator.*

MO'DISIL, *adj.* } Fr. *mode*. See **MODE**.
MO'DISHLY, *adv.* } According to mode, fa-
MO'DISHNESS, *n. s.* } shion, or custom: *modishness* is used for an affectation of the fashion.

Hypocrisy, at the fashionable end of the town, is very different from *hypocrisy* in the city; the *modish* hypocrite endeavours to appear more virtuous than he really is, the other kind of hypocrite more virtuous. *Addison's Spectator.*

MODON (*Mothone*); a strong city and port of the Morea, on the Mediterranean; lat. 36° 51' N.; lon. 21° 40' E. It is entirely surrounded by the sea, and connected with the main land by a wooden bridge. The port is unsafe, but important on account of its road and its proximity to the gulf of Coron. The city is small and badly built; the streets narrow and dirty. The Greeks became masters of it in the war of Grecian independence, and, in 1825, Miaulis burnt a Turkish fleet in the road. Ibrahim Pacha took possession of Modon soon after his arrival in the Morea, but was compelled by the French to evacuate it in 1828. Previously to the war, the inhabitants amounted to about 7000. In 1829, they did not exceed 500.

MODREVIUS (Andrew Frichius), secretary to Sigismund Augustus king of Poland, who acquired considerable reputation by his learning and works. He left the Romish church, favoring the Lutherans and Antitrinitarians, and took great pains to unite all Christian societies under the same communion. Grotius has placed him among the reconcilers of the different schemes of religion. His principal work is entitled *De Republicâ Emendendâ*; printed in 1554.

MODULATE, *v. a.* } Lat. *modulor*. To
MODULA'TION, *n. s.* } form sounds to a given
MOD'ULATOR. } key, or into concord: modulation is the act of doing this, or the harmony affected; a modulator he who modulates.

The nose, lips, teeth, palate, jaw, tongue, weasand, lungs, muscles of the chest, diaphragm, and muscles of the body, all serve to make or modulate the sound. *Grew's Cosmologia.*

The speech, as it is a sound resulting from the modulation of the air, has most affinity to the spirit, but, as it is uttered by the tongue, has immediate cognation with the body, and so is the fittest instrument

to manage a commerce between the invisible powers and human souls clothed in flesh.

Government of the Tongue.

The number of the simple original minerals has not been rightly fixed: the matter of two or more kinds being mixed together, and, by the different proportion and modulation of that matter variously diversified, have been reputed all different kinds.

Woodward.

The tongue is the grand instrument of taste, the faithful judge of all our nourishment, the artful modulator of our voice, and the necessary servant of mastication.

Derham.

Could any person so modulate her voice as to deceive so many?

Broome

Innumerable songsters in the freshening shade,
Their modulations mix, mellifluous.

Thomson's Seasons.

Echo propagates around
Each charm of modulated sound. *Anon.*

MODULATION, in reading. See READING.

MODULATION, in music, is susceptible of several different significations. It frequently means no more than an air, or a number of musical sounds properly connected and arranged. Thus it answers to what Mr. Malcolm understands by the word tune when he does not expressly treat concerning the tuning of instruments. Thus likewise it expresses the French word chant; for which reason, in music, the one word is often expressed by the other. But the precise and technical acceptation to which it ought to be confined is the art of composing melody or harmony agreeably to the laws prescribed by any particular key, that of changing the key, or of regularly and legitimately passing from one key to another.

Modulation, says Rousseau, is properly the manner of ascertaining and managing the modes; but at this time the word most frequently signifies the art of conducting the harmony and the air successively through several modes, in a manner agreeable to the ear, and conformed to rules. If the different modes be produced by harmony, thence likewise must spring the laws of modulation. These are simple in conception, but difficult in practice. To modulate properly in the same tone it is necessary, 1. To run through all the sounds of it in an agreeable air, frequently repeating the sounds most essential to it, and dwelling upon these with the most remarkable emphasis; that is to say, that the chord containing the sensible notes, and that of the tonic, should frequently be heard in it, but under different appearances, and obtained by different procedures to prevent monotony. 2. That responses or cadences should only be established upon these two chords: the greatest liberty, however, which ought to be taken with this rule is, that a cadence or repose may be established on the chord of the subdominant. 3. In short that none of the sounds of the mode ought ever to be altered; for without quitting it we cannot introduce a sharp or a flat which does not belong to it, nor abstract any one which in reality does belong to it. But, passing from one mode to another, we must consult analogy, we must consider the relations which a key bears to the other notes in the series, and to the number of sounds common to both the modes, that from which

we pass, and that into which we enter. If we pass from a mode major, whether we consider the fifth from the key as having the most simple relation with it except that of the octave, or whether we consider it as the first sound which enters into the harmonics of the same key, we shall always find that this fifth, which is the dominant of the mode, is the chord upon which we may establish the modulation most analogous to that of the principal key. This dominant, which constituted one of the harmonics of the first key, makes also one of its own peculiar key, of which it is the fundamental sound. There is then a connexion between these two chords. Besides, that same dominant carrying, as well as the tonic, a perfect chord major upon the principle of resonance, these two chords are only different one from the other by the dissonance, which, passing from the key to the dominant, is the sixth superadded, and when reascending from the dominant to the key is the seventh. Now these two chords, thus distinguished by the dissonance which is suitable to each, by the sounds which compose them when arranged in order, form precisely the octave, or the diatonic scale, which we call a gammut, which determines the mode. This series of the key, altered only by a sharp, forms the scale belonging to the mode of the dominant; which shows how striking the analogy is between these two tones, and gives the easiest opportunity of passing from one to the other by means of one single alteration alone. The mode then of the dominant is the first which presents itself after that of the key in the order of modulations. The same simplicity of relations which we find between a tonic and its dominant is likewise found between the same tonic and its subdominant: for that fifth, in ascending, which is formed by the dominant with the tonic, is likewise formed by the subdominant in descending: but that subdominant does not form a fifth with the tonic, except by inversion; it is directly a fourth if we take that tonic below, as it ought to be; and which fixes the degree of their relations: for in this sense the fourth, whose ratio is as 3 to 4, immediately follows the fifth, whose ratio is as 2 to 3. So that, if that subdominant does not enter into the chord of the tonic, in return the tonic enters into its perfect chord. For let *ut mi sol* be the chord of the tonic, that of the subdominant shall be *fa la ut*: thus it is the *ut* which here forms the connexion, and the two other sounds of this new chord, are exactly the two dissonances of the preceding. Besides we need not alter more sounds for this new mode than for that of the dominant; they are both in the one and the other quite the same chords of the principal mode, except one. Add a flat to the sensible note *si* or *B*, and all the notes in the mode of *ut* or *C* will serve for that of *fa* or *F*. The mode of the subdominant then is scarcely less analogous to the principal mode than that of the dominant. After having made use of the first modulation in order to pass from a principal mode *ut* or *C*, to that of the dominant *sol* or *G*, we are obliged to make use of the second to return to the principal mode: for, if *sol* or *G* be the dominant in the mode of *ut* or *C*, *ut* is the subdominant in the mode of *sol*:

thus one of these modulations is no less necessary than the other. The third sound which enters into the chord of the tonic is that of the third formed by its mediant; and after the preceding it is likewise the most simple of relations, $\frac{3}{2}$. Here then is a new modulation which presents itself, and which is so much the more analogous, because two of the sounds of the principal tonic enter likewise into the minor chord of its mediant: for, the former chord being *ut mi sol*, the latter must be *mi sol si*, where it may be perceived that *mi* and *sol* are common. But what renders this modulation a little more remote is the number of sounds which are necessary to be altered, even for the minor mode, which is most suitable to this *mi*.

Rousseau, in his Musical Dictionary, has given the formula of a scale both for the major and minor; now, by applying this formula to the minor mode, we find nothing in reality but the fourth sound *fa* heightened by a sharp in ascending; but in rising we find two others which are altered, viz. the principal tonic *ut*, and its second *re*, which here becomes a sensible note: it is certain that the alteration of so many sounds, and particularly of the tonic, must remove the mode and weaken the analogy. If we should invert the third as we have inverted the fifth, and take that third below the tonic on the sixth note *la* which ought here to be called a sub-mediator, or the mediant below, we shall form upon this note *la* a modulation more analogous to the principal tone than that of *mi*; for, as the perfect chord of this sub-mediator is *la ut mi*, there once more we find, as in that of the mediant, two of the sounds which enter into the chord of the tonic, viz. *ut* and *mi*: and moreover, since the scale of this new key is composed, at least in descending, of the same sounds with that of the principal key; and since it has only two sounds altered in ascending, i. e. one fewer than the series of the mediant, it follows that the modulation of this sixth note is preferable to that of the mediant; and by so much the more that there the principal tonic forms one of the sounds essential to the mode; which is more proper for approximating the idea of the modulation. The *mi* may afterwards follow. Here then are four sounds, *mi fa sol la*, upon each of which we may modulate in passing from the major mode of *ut*. *Re* and *si* remain, which are the two harmonics of the dominant. This last, as being a sensible note, cannot become a tonic by any proper modulation, at least it cannot immediately become one: this would be an abrupt application of ideas too much opposed to the same sounds, and would likewise be to give it a harmony too remote from the principal sound. As to the second note, *re*, we may likewise, by favor of a consonant procedure in the fundamental base, modulate upon it in a third minor; but this must only be continued for an instant, that the audience may not have time to forget the modulation of *ut*, which is itself altered in that place; otherwise, instead of returning immediately to *ut*, we must pass through intermediate modes, where we must run great hazard of deviation. By following the same analogies we may modulate in the following order, to make our exit

from a minor mode: first upon the mediant, afterwards the dominant, next the sub-dominant, then the sub-mediator, or sixth note. The mode of each of these accessory keys is determined by its mediant taken from the principal sound. For instance, issuing from the major mode of *ut* to modulate upon its mediant, we render the mode of that mediant minor; because *sol*, the dominant of the principal sound, forms a third minor with that mediant, which is *mi*. On the contrary, in our egress from the minor mode of *la*, we modulate upon its mediant *ut* in the major mode; because *mi*, the dominant of the tone whence we issue, forms a third major with the key of that into which we enter, &c. These rules, comprehended in one general formula, import, that the modes of the dominant and of the sub-dominant are like that of the tonic, and that the mediant and the sixth note require a mode opposed. We must, however, remark that by the right which we have of passing from the major to the minor, and vice versa, upon the same key, we may likewise change the order of modes from one key to another: but, whilst we thus remove from the natural modulation, we must presently think of our return; for it is a general rule that every piece of music ought to terminate in that key with which it began. In his Musical Dictionary, plate B, figs. 6 and 7, Rousseau has collected, in two examples, which are very short, all the modes to which we may immediately pass; the first in passing from the major mode, and the second from the minor. Each note indicates a particular modulation; and the value of the notes in each example likewise shows the relative duration suitable to each of these modes, according to its relation with the principal mode. These immediate transitions from one mode to another furnish us with the means of passing by the same rules to modes still more remote, and from thence to return to the principal mode, of which we should never lose sight. But it is not sufficient to know what course we ought to pursue; we must likewise be acquainted with the method of entering into it. A summary, therefore, of the precepts given in this department shall immediately follow. In melody, to discover and introduce the modulation which we have chosen, nothing is necessary but to render perceptible the alterations which it causes in the sounds of that mode whence we issue, to make them proper for the mode into which we enter. Are we now in the major mode of *ut*? there needs no more than to sound the note *fa* sharp that we may discover the mode of the dominant; or a *si* flat, that we may show the mode of the sub-dominant. Afterwards we may run over the sounds essential to the mode in which we enter; if it be well chosen our modulation will always be just. In harmony the difficulty is a little increased; for, as it is necessary that the change of modes should be made at the same time through all the parts, care must be taken of the harmony, and of the air, that we may avoid pursuing different modulations at the same time. Huygens remarks, that the prohibition of two fifths in immediate succession proceeds upon this rule as its principal: in reality between two parts it is scarcely possible to form

a number of just fifths in uninterrupted succession without operating in two different modes. All the possible modes of passing from one mode to another are reducible to five with respect to the major mode, and to four with respect to the minor; which, in the Musical Dictionary, plate B fig. 8, will be found implied in a fundamental basis intended for each modulation. If there be any other modulation which cannot be resolved into some one of these nine, unless that modulation be enharmonic, it must infallibly be illegitimate. See Music.

MOD'ULE, *n. s.* Lat. *modulus*. A model. The word is redundant in our language.

My heart hath one poor string to stay it by,
Which holds but till thy news be uttered;
And then, all this thou see'st, is but a cloud
And *module* of confounded royalty. *Shakespeare.*

MO'DUS, *n. s.* Lat. *modus*. Strictly a mode; but used particularly for the compensation or mode by which tithes, or an equivalent for them, are paid.

One terrible circumstance of this bill, is turning the tithe of flax and hemp into what the lawyers call a *modus*, or a certain sum in lieu of a tenth part of the product. *Swift.*

MOF, *adj.* Sax. *ma*. See *Mo*. More; a greater number.

The chronicles of England mention no *moe* than only six kings bearing the name of Edward since the conquest, therefore it cannot be there should be more. *Hooker.*

MOEHSSEN (John Charles William), M. D., was born at Berlin in 1722, and studied at the universities of Jena and Halle. Taking the degree of M. D. at the age of twenty, he returned to Berlin, and succeeded his grandfather, M. Horch, as physician to the gymnasium of Joachim. In 1778 he was appointed physician to Frederick the Great, whom he attended in the war of the Bavarian succession. He now became a member of various learned institutions, and in 1795 was chosen an associate of the royal academy of arts and sciences at Berlin. His death took place in the same year. His works relate to the history of medicine and its professors, including *De Medicis Equestria Dignitate ornatis*, 1768, 4to.; *A Catalogue of a Collection of Engraved Portraits of celebrated Physicians, 1771*, 4to.; *A Description of Medals or Jettons struck in honor of Physicians, with Memoirs explaining the Coinage of the Ancients, as connected with Medical History and Literature, 1773*, 2 vols. 4to.; and *Remarkable Experiments to Determine the Utility of Inoculation for the Small-Pox, 1782*, 8vo.

MERIS, a king of Egypt, the last of 300, who are said to have reigned between Menes and Sesostris. He ordered the lake to be dug which bears his name, and reigned sixty-eight years.

MERIS, a celebrated artificial lake of Egypt, said to have been 220 miles in circumference, intended as a reservoir for the waters of the Nile during its extraordinary overflowings. There were two pyramids in it, one half of which lay under water.—*Herodot. lib. ii. c. 12.*

MOGADOR, or *Mogodor*, so named from Sidi Mogodol, an Arab saint, called also *Suerah*,

a town of Morocco entirely built since 1760, has a handsome appearance from the sea, the houses being of stone. Like those of all Mahometan towns, however, the streets are very narrow, and standing on a desert spot of said nearly surrounded by the sea; the town has no water but what is brought from half a mile distance: for its vegetables it is obliged to send from four to twelve miles. There are, indeed, two towns here; one, which may more properly be called the citadel, containing the custom-house, treasury, the residence of the Alkaid, and the houses of the foreign merchants; and an outer town lately inhabited by the Jews who are not foreign merchants: but this part of Mogador is also walled and fortified. The houses of the foreign merchants are spacious, having from eight to twelve rooms on a floor, opening into a gallery which surrounds the house inside, and encloses an interior space, generally used as a warehouse. The roofs are flat and serve as a walk in the evening, far preferable to those on the ground, which present nothing but barren sands drifting before the wind. The port is within a little island a mile in circuit, and a quarter of a mile from the main; it can only receive small vessels: several good batteries defend its entrance. It is the emporium of the foreign, and indeed of the entire trade of Morocco, and has 10,000 inhabitants.

The exports in 1804 were,

	lbs.	
Almonds . . .	600,000	chiefly to Holland.
Gum arabic . . .	300,000	Holland and Eng-
— senega . . .	100,000	England.
— sandarach . . .	30,000	England and Hol-
Bees' wax . . .	200,000	Leghorn, Marseilles,
		Cadiz and Lisbon.
Olive oil . . .	60,000	Holland and Lisbon.
Cow and calf skins	120,000	London, Leghorn,
		and Marseilles.
Wool . . .	100,000	Holland and Mar-
		seilles.
Ostrich feathers . . .	500	London.
Elephants' teeth . . .	800	Holland.
Pomegranate peels	50,000	Ditto.
Dates . . .	25,000	London and Lis-
		bon.
Anniseed . . .	6000	Holland.
Gingence and fen- } nel seed } . . .	2500	Ditto.
Tallow . . .	1500	Teneriffe.
		dozens.
Goat skins . . .	130,000	England.

Besides gold-dust, mats, carpets, mules, and minor articles; total value £128,000.

The imports in the same year (including £25,000 in Spanish dollars) amounted to £150,000 in ship timber, arms, ammunition, woollens, linens, cottons, lead, bar iron, hardware, tea, sugar, spices, trinkets, &c. The ports with which Mogador principally trades are London, Amsterdam, Leghorn, Lisbon, Cadiz, and Teneriffe. The population is estimated by Mr. Jackson at 10,000. Long 9° 20' W., lat. 31° 50' N

MOGULS, a celebrated nation of Asia, whose conquests were formerly most rapid and extensive. They deduce, we are told, their origin from Japhet, or, as they call him, Japhis, the son of Noah. His son Turk, they say, was the first king, or khan, of those nations afterwards known by the separate names of Turks, Tartars, and Moguls; and the Tartars, especially, assert that their proper designation is Turks. To this prince is attributed many of those inventions which barbarous nations commonly ascribe to their first sovereigns. He was succeeded by Taunak; in whose reign the whole posterity of Turk were divided into four large tribes, called the ordas of Erlat, Gialiar, Kaugin, Berlas or Perlas; of which last came the famous Timur Beg, or Tamerlane. From this time to that of Alanza khan we meet with nothing remarkable. In his reign the Turks, being immersed in all kinds of luxury, universally apostatised into idolatry. Having two sons, Tartar and Mogul, he divided his dominions among them, and thus gave rise to the two empires of the Tartars and Moguls.

The two nations had not long existed before they began to make war upon each other; and, after long contention, Il Khan, emperor of the Moguls, was totally overthrown by Siuntz Khan, emperor of the Tartars; and so great was the defeat that the Mogul nation was almost exterminated. Only two of Il Khan's family survived. These were Kajan his youngest son, and Nagos his nephew, who were both of an age, and had both been married the same year. These two princes, with their wives, had been taken prisoners by Siuntz Khan, but made their escape to their own country. Here they seized upon all the cattle which had not been carried off by the Tartars; then, stripping some of the slain, they took their clothes, and retired into the mountains. They passed several mountains without much difficulty; but at last advanced to the foot of one exceedingly high, which had no way over it but a very small path made by certain animals, called in the Tartar language archara. This path they made use of, though it was so strait that only one could pass at a time, and he was in the most imminent danger of breaking his neck at the least false step. Having ascended the mountain on one side by this path, they descended by the same on the other side; and were agreeably surprised to find themselves in a most delightful tract, interspersed with rivulets and meadows, abounding with a vast variety of fruits, and enclosed on all sides by inaccessible mountains, so as to shelter them from all future pursuits of the Tartars. Here they lived some time, and gave this beautiful country the name of Irgana-kon, from its situation; Irgana, signifying in the old language of the Moguls, a valley, and Kon, a steep height. In process of time these two families very much increased. Kajan, whose posterity was the most numerous, called his descendants Kajath but the people springing from Nagos were divided into two tribes; Nagoster and Durlagan. These two Mogul princes and their descendants lived in this place for more than 400 years; but the latter then finding it too narrow for them, meditated a return to the country whence their

ancestors had been expelled. For some time however they found this impracticable, as the path that conducted their ancestors had long been destroyed. At last they discovered that one part of the high mountain above mentioned was not very thick in a certain place; and that it consisted of iron ore. To this, having first set fire to a layer of wood and another of charcoal, laid along the foot of the mountain, they applied seventy large bellows, and at last melted the mountain in such a manner that an opening was made, large enough for a loaded camel to pass; and through this passage they all marched out.

The Moguls, having thus issued as it were from a new world, overthrew the Tartars in their turn; and continued to be a very considerable nation, till the time of their great hero Temujin, afterwards called Jenghiz Khan, whom they extol in the most extravagant manner. It is difficult, however, to say how far their dominions extended at this time. It seems certain that great part of the vast region now called Tartary was then in a state of considerable civilisation, and extremely populous, as mention is made of many cities which the Moguls destroyed; and the incredible multitudes whom they slaughtered show the populousness of the country. On the east the country of the Moguls and Tartars had the great desert which divides Tartary from China: on the west it had the empire of Karazm, founded by Mahmud Gazni; and on the south were the countries now named Hindostan, Siam, Pegu, Tonquin, and Cochiu-China. Thus it comprehended the east part of modern Tartary, and all Siberia. The whole region was divided among a great number of Aymacks, or tribes; who had each one or more khans, according as it was more or less numerous, or divided into branches. Among these, that of the Karaites was the most powerful; their prince assumed the title of grand Khan, and the Moguls were tributary to him; but, according to the Chinese historians, both were tributary to the emperor of Kitay or Katay. China was divided into two parts: the nine southern provinces were then in the hands of the Chinese emperors of the Song dynasty, who kept their court at Hang-chew, the capital of the province of Che-kyang (see CHINA); the five north provinces, excepting part of Shensi, were possessed by the Kin, a people of Eastern Tartary, from whom are descended the Manchew Tartars, at present masters of China. This vast dominion was named Kitay, and was divided into two parts: that which belonged to China was properly called Kitay; and the part which belonged to Tartary Karakitay, in which some include the territories of the Moguls, Karaites, and other tribes, which are the subject of the present article. The west part of the empire of Kitay was possessed by a Turkish prince, who had lately founded a new kingdom there, called Hya; whose capital was Hya-chew, now Ninghya in Shensi, whence the kingdom took its name. On the west of Hya lay Tangut; a country of great extent, and formerly very powerful; but reduced to a low state, and divided among many princes; some of whom were subject to the emperor of Hya, and others to the emperor of China. All Tartary to the west as far as the Caspian Sea,

with the greater part of Little Bukharia, which then passed under the general name of Turkeston, was subject to Ghurkhan, Khurkhan, or Kavar Khan; to whom even the Gazni monarchs were tributary. This Ghurkhan had been prince of the west Kitan or Lyau; who, driven out of Kitay by the king, settled in little Bukharia, and the country to the north, where they founded a powerful state, about A. D. 1124. Thus the Moguls, properly so called, had but a very small extent of empire which could be called their own, if indeed they had any, when Temujin made his appearance. This hero is said by the Tartars to have been of divine origin, as his family could be traced no farther back than ten generations, the mother of whom became pregnant by a spirit. The names and transactions of his predecessors are equally uncertain and unimportant; but he himself was born in 1163, and is said to have come into the world with congealed blood in his hands; whence it was prognosticated that he would be a great warrior, and obtain the victory over all his enemies. This prediction, if any such there was, Temujin most literally fulfilled.

At the time of his father's decease, his subjects amounted to between 30,000 and 40,000 families; but of these two-thirds quickly deserted, and Temujin was left almost without subjects. When only thirteen years of age, he fought a bloody battle against these revolvers: but either was defeated, or gained an indecisive victory; so that he remained in obscurity for twenty-seven years longer. His good fortune at last he owed to the friendship of Vang Khan, who ruled over a great number of Tartar tribes north of Kitay, and was named Prester John among the Europeans. This prince took Temujin under his protection; and, a rebellion being afterwards raised against himself, Temujin was made his general, and the khan was kept in possession of his throne; soon after which, Temujin subdued the tribes which had revolted from himself, and treated them with the utmost barbarity. This happened in 1201; but Vang Khan, instead of continuing the friend of Temujin, now became jealous, and resolved to destroy him by treachery. With this view he proposed a marriage between Temujin's son Juji and his own daughter, and another between Temujin's daughter and his own son. Temujin was invited by the Vang Khan to celebrate this double marriage; but, receiving intelligence of his intention, he excused himself to Vang Khan's messengers, and desired that the ceremony might be put off to some other time. A few days after the departure of these messengers, Badu and Kishlik, two brothers, who kept the horses of one of Vang Khan's chief domestics, came and informed Temujin that the grand khan, finding he had missed his aim, was resolved to set out instantly, and surprise him next morning, before he could suspect any danger. Temujin, on this, quitted his camp in the night, and retired with all his people to some distance. He was scarcely gone when Vang Khan's troops arrived, and discharged an incredible number of arrows among the empty tents; but finding nobody there, they pursued Temujin in such haste that they fell into great

disorder. In this condition they were suddenly attacked and routed by Temujin; after which an open war with Vang Khan took place. By this quarrel almost all the princes of Tartary were put in motion, some siding with Temujin, and others with Vang Khan. But at last Vang Khan was overthrown in a battle, where he lost 40,000 men; and was obliged to fly for refuge to a prince named Tayyan Khan, who was Temujin's father-in-law, and by whom he was ungenerously put to death. Temujin immediately began to seize on his dominions, great part of which voluntarily submitted; but a confederacy was formed against him by a number of Vang Khan's tributaries, at the head of whom was Jamuka, a prince who had already distinguished himself by his enmity to Temujin; and even Tayyan Khan himself was drawn into the plot, through jealousy of his son-in-law's good fortune. But Temujin was well prepared; and in 1204 attacked Tayyan Khan, routed his army, killed himself, and took Jemuka prisoner, whose head he caused instantly to be struck off; after which he marched against the other tribes who had conspired against him. Them he quickly reduced; took a city called Kashim, where he put all to the sword who had borne arms against him; and reduced all the Mogul tribes in 1205. Temujin now, having none to oppose him, called a general diet, to be held on the first day of spring 1206. To this diet were summoned all the great lords, both Moguls and Tartars; and, in the mean time, to establish good order in the army, he divided his soldiers into bodies of 10,000, 1000, 100, and ten men, with their respective officers, all subordinate to the generals, or those who commanded the bodies of 10,000; and these were to act under his own sons. On the day of holding the diet, the princes of the blood and great lords appeared dressed in white. Temujin, dressed in the same manner, with his crown on his head, sat down on his throne, and was complimented by the whole assembly; who confirmed the Mogul empire to him and his successors, adding all those kingdoms which he had subdued, the descendants of whose vanquished khans were deprived of all right or title to them; after which he was proclaimed emperor with much ceremony. During this inauguration, a pretended prophet declared that he came from God to tell the assembly that thenceforth Temujin should assume the name of Jenghiz Khan, or the most great Khan of khans; prophesying also that all his posterity should be khans from generation to generation. This prophecy, which was no doubt a trick of Temujin's, had a surprising effect on his subjects. Jenghiz Khan, having now reduced under his subjection all the wandering tribes of Moguls and Tartars, began to think of reducing those countries to the south and south-west of his own, where the inhabitants were much more civilised than his own subjects, and the countries full of fortified cities. He began with the emperor of Hya, whose dominions he invaded in 1209, who at last submitted to become his tributary. But in the mean time Jenghiz Khan himself was supposed to be tributary to the emperor of Kitay; who, in 1210, sent him an officer, demanding the customary tribute.

This was refused with the utmost indignation, and a war commenced, which only ended with the dissolution of the empire of Kitay. In 1216 Jenghiz Khan resolved to carry his arms westward, and therefore left his general Muchuli to pursue his conquests in Kitay. In his journey westward he overthrew an army of 300,000 Tartars, who had revolted against him; and, in 1218, sent ambassadors, desiring an alliance with Mohammed Karazm Shah, emperor of Gazna. His ambassador was haughtily treated; however, the alliance was concluded, but soon after broken through the treachery of the Gaznian monarch's subjects. This brought on a war attended with the most dreadful devastations, and which ended with the entire destruction of the empire of Karazm or Gazna, as related under the article **GAZNA**. After the reduction of Karazm, part of the Moguls broke into Iran or Persia, where also they made large conquests, while others of their armies invaded Georgia and the countries to the west; all this time committing such enormities that the Chinese historians say both men and spirits burst with indignation. In 1225 Jenghiz Khan returned to Hya, where he made war on the emperor for having sheltered some of his enemies. The event was, that the emperor was slain, and his kingdom conquered, or rather destroyed; which, however, was the last exploit of this most cruel conqueror, who died in 1227, as he marched to complete the destruction of the Chinese.

At the death of Jenghiz Khan the Mogul empire extended over a prodigious tract of country; being more than 1800 leagues in length from east to west, and upwards of 1000 in breadth from north to south. Its princes, however, were still insatiable, and pushed on their conquests on all sides. Otkay was acknowledged emperor after Jenghiz Khan; and had under his immediate government Mogulestan (the country of the Moguls properly so called), Kitay, and the countries eastward to the Tartarian Sea. Jagatay his brother governed under him a great part of the western conquests. The country of the Kipjacks, and others on the east, and north-east, north, and north-west were governed by Batu or Patu the son of Juji, who had been killed in the wars; while Tuli or Toley, another son of Jenghiz Khan, had Khorassan, Persia, and what part of India was conquered. On the east side the Mogul arms were still attended with success; not only the empire of Kitay, but the southern part of China was conquered. On the west side matters continued much in the same way till 1254, when Magu, or Menko, the fourth khan of the Moguls, who was afterwards killed at a siege in China, raised a great army, which he gave to his brother Hulaku, to extend his dominions westward. In 1255 he entered Iran, where he suppressed the Ismaelians or Assassins (see **ASSASSINS**); and two years afterwards he advanced to Bagdad, which he took, and cruelly put the khalif to death, treating the city with no more lenity than the Moguls usually treated those which fell into their hands. Every thing was put to fire and sword; and in the city and its neighbourhood the number of slain, it is said, amounted to 1,600,000. The next year he

invaded Syria; the city of Damascus was delivered up, and, as it made no resistance, the inhabitants were spared; but Aleppo being taken by storm, a greater slaughter ensued there than had taken place at Bagdad, not even the children in their cradles being spared. Some cities of this country revolted in a year or two after; but falling again into the hands of the Moguls, they were plundered, and the inhabitants made slaves, or butchered without mercy. Hulaku died in 1264, and at his death we may fix the greatest extent of the Mogul empire. It now comprehended the whole continent of Asia, excepting part of Hindostan, Siam, Pegu, Cochinchina, and a few countries of Lesser Asia, which had not been attacked by them; and during all these vast conquests no Mogul army had been conquered, except one by Jaloluddin. From this period, however, the empire began to decline. The ambition of the khans having prompted them to invade the kingdoms of Japan and Cochinchina, they were miserably disappointed in their attempts, and lost a great number of men. The same bad success attended them in Hindostan; and in a short time this mighty empire broke into several smaller ones. The governors of Persia, being of the family of Jenghiz Khan, owned no allegiance to any superior; those of Tartary did the same. The Chinese threw off the yoke; and thus the continent of Asia wore much the same face that it had done before Jenghiz Khan began his conquests.

The successors of Hulaku reigned in Persia till 1335; but that year Abusaid Khan, the eighth from Hulaku, dying, the affairs of that country fell into confusion for want of a prince of the race of Jenghiz Khan. The empire, therefore, was divided among a great number of petty princes, who fought against each other almost without intermission, till, in 1369, Timur Bek, or Tamerlane, one of these princes, having conquered a number of others, was crowned at Balkh, with the pompous title of Saheb Karan; that is, 'the emperor of the age, and conqueror of the world.' As he had just before taken that city, and destroyed one of his most formidable rivals, who had shut himself up in it, the new emperor began his reign with beholding some of the inhabitants, imprisoning others, burning their houses, and selling the women and children for slaves. In 1370 he crossed the Sihun, made war on the Getes, and attacked Karazm. Next year he granted a peace to his enemies; but, two years after, he again invaded the country of the Getes, and by the year 1379 had fully conquered that country as well as Korazan; and from that time he continued to extend his conquests in much the same manner as Jenghiz Khan had done, though with less cruelty. In 1387 he had reduced Armenia, Georgia, and all Persia; the conquest of which last was completed by the reduction of Ispahan, 70,000 of the inhabitants of which were slaughtered on account of a sedition. After the reduction of Persia, Timur turned his arms northward and westward, subduing all the countries to the Euphrates. He took Bagdad, subdued Syria, and, having ravaged a great part of Russia, returned to

Persia in 1396, where he splendidly feasted his whole army. In 1398 he invaded Hindostan, crossed the Indus on the 17th of September, reduced several fortresses, and made a vast number of captives. However, being afraid lest, in case of any emergency, these prisoners might take part with the enemy, he ordered his soldiers to put all their Indian slaves to death; and, in consequence of this inhuman order, more than 100,000 of these poor wretches were slaughtered in less than an hour. In the beginning of 1399 Timur was met by the Indian army, whom, after a desperate battle, he defeated with great slaughter, and soon after took the city of Delhi, the capital of the country. Here he seated himself on the throne of the Indian emperors, and here the sharifs, kadis, and principal inhabitants of the city, came to make their submission, and begged for mercy. The tame elephants and rhinoceroses likewise were brought to kneel before him, as they had been accustomed to do to the Indian emperors, and made a great cry as if they implored his clemency. These war-elephants, 120 in number, were, at his return, sent to Samarcand, and to the province where his sons resided. After this, at the request of the lords of the court, Timur made a great feast; at which he distributed presents to the princes and principal officers. Delhi at this time consisted of three cities called Seyri, Old Delhi, and Jehan Penah. Seyri was surrounded with a wall in form of a circle. Old Delhi was the same, but much larger, lying south-west of the other. These two parts were joined on each side by a wall; and the third, lying between them, was called Jehan Penah, which was larger than Old Delhi. Penah had ten gates; Seyri had seven, three of which looked towards Jehan Penah; this last had thirteen gates, six to the north-west, and seven to the south-east. Every thing seemed to be quiet, when, on the 12th of January 1399, the soldiers of Timur, being assembled at one of the gates of Delhi, insulted the inhabitants. The great emirs were ordered to put a stop to these disorders, but could not; and, the gates being open, above 15,000 more soldiers got in, while a far greater number of troops committed greater disorders in Seyri and Jehan Penah. The inhabitants in despair fell on them, while the disorder was increased by the admission of more troops; so that by the morning of the 13th the whole army was entered, and this great city was totally destroyed, and the people massacred or sold for slaves. The spoils in jewels, plate, &c., were immense. On the 15th, in Old Delhi, the Indians retired into the great mosque to defend themselves; but being attacked by the Tartars, they were slaughtered, and a dreadful carnage ensued throughout the whole city. The artisans were divided among the princes and commanders; but the masons were reserved for the emperor, to build a spacious stone mosque at Samarcand.

After this terrible devastation, Timur marched into the different provinces of Hindostan, every where defeating the Indians who opposed him, and slaughtering the Ghebres or worshippers of fire. On the 25th of March he set out on his return, and on the 9th of May arrived at Samarcand. In a few months after his arrival, he

was obliged to go into Persia, where affairs were in the utmost disorder by the misconduct of his son, whom he had appointed sovereign of that empire. Timur soon settled matters; after which he again set out on an expedition westward, reduced many places in Georgia which had not submitted, and conquered Syria. At the same time he quarrelled with Bajazet the Turkish sultan, then busied in an enterprise against Constantinople. Bajazet had demanded tribute from a prince who was under Timur's protection, and returned an insulting answer to the Tartar ambassadors, who were sent to him on that business. Timur, being an enthusiast in the cause of Mahometanism, and considering Bajazet as engaged in the cause of heaven when besieging a Christian city, was very unwilling to disturb him in so pious a work; and therefore undertook several expeditions against the princes of Syria and Georgia, to give the Turkish monarch time to cool. Among other places he again invested Bagdad, which had cast off its allegiance; and, having taken it by storm, made such a dreadful massacre of the inhabitants that 120 pyramids were erected with the heads of the slain. In the mean time Bajazet continued to give fresh provocation, by protecting one Kava Yusef, a robber, who had insulted the caravan of Mecca; so that Timur at length resolved to make war upon him. Bajazet, foreseeing the danger of bringing such a formidable enemy against himself, asked pardon, by a letter, for what was passed, and promised obedience to Timur's will for the future. This embassy was graciously received; and Timur returned for answer, that he would forbear hostilities, provided Bajazet would either put Kava Yusef to death, send him to the Tartar camp, or expel him out of his dominions. Along with the Turkish ambassadors he sent one of his own; telling Bajazet that he would march into the confines of Antolia, and there wait his final answer. Though Bajazet had seemed at first willing to come to an agreement with Timur, yet he now behaved in such an unsatisfactory manner that the Tartar monarch desired him to prepare for war; upon which he raised the siege of Constantinople; and, having met Timur with an army greatly inferior to the Tartars, was utterly defeated and taken prisoner. This victory was followed by the submission of many places of Lesser Asia to Timur; the Greek emperor owned himself his tributary, as did also the sultan of Egypt. After this, Timur once more returned to Georgia, which he cruelly ravaged; after which he marched to Samarcand, where he arrived in 1405. Here, being now old, this mighty conqueror began to look forward to that state which at one time or other is the dread of all mankind; and, to quiet the remorse of his conscience, came to the following curious resolution, which he communicated to his friends; viz. that 'as the vast conquests which he had made were not obtained without some violence, which had occasioned the destruction of a great number of God's creatures, he was resolved, by way of atonement for his past crimes, to perform some good action; namely, to make war on the infidels, and exterminate the idolaters of China.' This atonement, however, he did not live to

accomplish; for he died the same year of a burning fever, in the seventy-first year of his age, and thirty-sixth of his reign.

On the death of Tamerlane, his empire fell immediately into great disorder, and the civil wars continued for five or six years; but at last peace was restored, by the settlement of Shah Rukh, Timur's son, on the throne. He did not, however, enjoy the empire in its full extent, or indeed much above one-half of it; having only Karazm, Khorassan, Kandahar, Persia, and part of Hindostan. Neither was he able, though a brave and warlike prince, to extend his dominions, though he transmitted them to his son Ulug Beg. He proved a wise and learned monarch; and is famous for the astronomical tables which he caused to be composed. He was killed in 1448 by his son Abdollatif, who six months after was put to death by his own soldiers. After the death of Abdollah, a grandson of Shah Rukh, seized the throne; but after reigning one year, was expelled by Abusaid Mirza, the grandson of Miran Shah, the son of Timur. His reign was one continued scene of wars and tumults; till at last he was defeated and taken prisoner by one Hassan Beg, who put him to death in 1468. From this time we may consider the empire of Timur as dissolved, though his descendants still reigned in Persia and Hindostan. On the death of the above mentioned monarch, his son Baber succeeded him, but was soon driven out by the Usbeck Tartars; after which he resided some time in Gazna, when he made incursions into Hindostan, and at length became master of the whole empire, excepting the kingdoms of Dekan, Guzerat, and Bengal. For the transactions subsequent to this period, see HINDOSTAN and INDIA.

MO'HAIR, *n. s.* Fr. *mohere, moire*; Belg. and Teut. *moor*. Stuff made of camels' or other hair.

She, while her lover pants upon her breast,
Can mark the figures on an Indian chest,
And when she sees her friend in deep despair,
Observes how much a chintz exceeds mohair.

Pope.

MOHAIR, in commerce, is the hair of a kind of goat frequent about Angora in Turkey; the inhabitants of which city are all employed in the manufacture of camblets made of this hair. Some give the name mohair to the camblets or stuffs made of this hair: of these there are two kinds: the one smooth and plain, the other watered like tabbies. The difference between the two only consists in this, that the latter is calendered, the other not. There are also mohairs, both plain and watered, whose woof is of wool, cotton, or thread.

MOHAMMED (Sheick), the founder of the sect of the Wahabites, who derive their appellation from Abd el Wahab, the father of Mohammed, was born in Arabia, about the commencement of the eighteenth century, and claimed to be descended from the prophet of his religion. At an early age he formed the project of founding a new sect; and carefully studied the laws and traditions of the moslems. Ill-treated by his father, he at first fled and took refuge at Bassora;

afterwards he travelled through Syria and Arabia Mohammed Ibn Seoud, governor of one of the provinces of Arabia, at length gave him an asylum, and permitted him freely to propagate his opinions. From this chief he obtained a detachment of troops to assist his missionary labors; and, like his great namesake and predecessor, he offered to the choice of his hearers the alternative of conversion or death. On the death of his protector, he found the same favor with his successor, Abd el Aziz, who, at the head of his troops, converted to Wahabism all the tribes of the province of Nejd. An ineffectual attempt, made by the pacha of Bagdad, to crush this sect in 1798, added to their power; and in 1800 they made themselves for some time masters of Mecca. In the course of the expedition, however, Mohammed died at an advanced age; and Ebd el Aziz, who survived him a few years, was assassinated in 1803. The sect thus founded receive the Koran as of divine authority, but reject the traditions of the doctors; and their profession of faith is confined to the words, 'There is no other God but God,' without the addition, 'that Mahomet is the prophet of God.'

MOHAWK, a river of New York, North America, which rises about twenty miles north of Rome. It passes by Rome, Utica, Schenectady, &c., and flows into the Hudson by three mouths between Waterford and Troy. Its length from Rome to the Hudson is about 117 miles. It is connected with Wood Creek by a canal one mile and a half long. There are also canals at German Flats and Herkimer. A boat navigation has been opened for several years from Schenectady through the Mohawk, Wood Creek, Oneida Lake, and Oswego River, to the Lake Ontario. This river, about two miles west of the Hudson, has remarkable falls, called Cahoes or Cohoes. The river, just above the falls, is between 300 or 400 feet wide, and descends at high water in one sheet nearly seventy feet. About three quarters of a mile below, a bridge is erected across the river, from which there is a most sublime and beautiful view of the cataract.

MOHAWK, a river in Delaware county, New York, which unites with the Popachton and forms the Delaware.

MOHAWKS, a nation of North American Indians, acknowledged by the other tribes of the six nations to be the true old head of the confederacy. They were formerly very powerful, and inhabited the above country. Being strongly attached to the family of Sir William Johnston, a part of them emigrated with Sir John Johnston to Canada in 1776. About 300 of these reside in Upper Canada. The rest left their settlement at Hunter Fort in spring 1780, and settled on the Grand River. They had made great advances in civilisation; most of them could speak English, and many of them professed their faith in the Christian religion.

MOHILEV, a considerable government of West European Russia, to the east of the government of Minsk, lying between 28° 50', and 32° 40' of E. long., and 53° 5' and 55° 10' of N. lat. Its area is 18,500 square miles, and its population about 800,000, of whom the majority are Poles. Here are likewise great numbers of

Jews. It has an immense extent of forests, and marshes, which, however, contain iron ore that might be turned to good account. The soil is also in general fertile, and produces rye, barley, oats, maize, hemp, and flax, in abundance. The principal rivers are the Dnieper, the Druz, and the Sossa: the largest lake the Sennoje. Timber is conveyed to Riga and the ports of the Black Sea: the other exports are corn, cattle, leather, glass, and paper. The manufactures are confined to a few tanneries, paper mills, and glass and iron works. The other trade is not considerable. It is divided into twelve circles.

MOIILEV, a town of European Russia, the capital of the above government, is situated on the right bank of the Dnieper, and divided into four quarters, of which the castle, surrounded by an earthen mound, is the most conspicuous. It stands on a rising ground. In the centre of the town is an octagonal area, surrounded with neat stone buildings. The government offices, and archbishop's palace, are also handsome edifices. Here is a Greek and a Latin archbishop: the latter being the superior of all the Catholics in Russia and Poland. The Jesuits, on the suppression of their order, found an asylum here, and still retain their college. The population is about 12,500, part of whom manufacture leather, while others trade with Riga, Memel, and Dantzic, to which they export the country produce, and receive in return foreign goods; particularly thrown silk. The number of Jews is nearly 2000. It consists chiefly of one long street. The church is a very handsome building, of the architecture of Henry VII. On the Bailey Hill, on the north of the town, are some towers of its strong and ancient castle. In the vicinity of the town are large cotton mills. Market on Saturday. Population 5083.

MO'HOCK, *n. s.* The name of a nation of American Indians, given to ruffians who infested, or rather were imagined to infest, the streets of London.—Johnson.

From milk-sop he starts up *mohock*. *Prior.*

Who has not trembled at the *mohock's* name?

Gay.

Thou hast fallen upon me with the rage of a mad dog, or a *mohock*. *Dennis.*

MOIDOR, *n. s.* A Portuguese coin, rated at one pound seven shillings. See COINS.

MOIETY, *n. s.* Fr. *moitié*, from *moien* the middle; or Lat. *medietas*. Half; one of two equal parts.

This company being divided into two equal *moieties*, the one before, the other since the coming of Christ; that part which, since the coming of Christ, partly hath embraced, and partly shall embrace, the Christian religion, we term, as by a more proper name, the church of Christ. *Hooker.*

The death of Antony

Is not a single doom; in that name lay

A moiety of the world.

Shakspeare. Antony and Cleopatra.

As this is likely to produce a cessation of arms among one half of our island, it is reasonable that the more beautiful moiety of his majesty's subjects should establish a truce. *Addison.*

The militia was settled, a moiety of which should be nominated by the king, and the other moiety by the parliament. *Clarendon.*

MOIL, *v. a. & v. n.* Fr. *mouiller*; Scot. *m'iddle*. To dirt with mie or dirt: to labor in the mire; to toil or drudge in any way.

All they which were left were *moiled* with dirt and mire by reason of the deepness of the rotten way.

Knoller.

Moil not too much under-ground, for the hope of mines is very uncertain. *Bacon's Essays.*

No more tug one another thus, nor *moil* yourselves, receive

Prize equal.

Chapman's Iliad.

The name of the laborious William Noy, attorney-general to Charles the First, was anagrammatised, I *moil* in Law. *Howel.*

Now he must *moil* and drudge for one he loaths *Dryden.*

Oh the endless misery of the life I lead! cries the *moiling* husband; to spend all my days in ploughing. *L'Estrange.*

With thee 'twas Marian's dear delight

To *moil* all day, and merry-make at night. *Gay.*

MOINE (Peter le), a French poet, born at Chaumont in Bassigni, A D. 1602. He joined the society of Jesuits, and enjoyed several offices among them. He is chiefly known by his verses, which were collected into one vol. folio in 1671. They show genius and fancy, but are very extravagant and bombastic. Among his prose works are, 1. *La Devotion aiséé*, Paris, 1652, 8vo; 2. *Pensées Morales*; 3. *A short Treatise on History*, in 12mo. He died at Paris, August 22nd, 1672, aged seventy.

MOINE (Stephen le), a learned French protestant minister, born at Caen 1624. He was well skilled in the Greek, Latin, and oriental tongues, and professed divinity with high reputation at Leyden; where he died in 1689. Several dissertations of his are printed together, entitled *Varia Sacra*, in 2 vols. 4to. He also wrote other works.

MOISSAC, an ancient town and chief place of a subprefecture in the department of the Tarn-et-Garonne, France. It is a post town with an inferior court and a chamber of commerce, and contains 9000 inhabitants. This place is very advantageously situated on the right bank of the Tarn, which is here navigable, and favors a brisk trade that is carried on with Bourdeaux. It stands in a fruitful vale, surrounded by hills covered with vineyards and orchards, producing abundance of excellent fruit. Its manufactures consist of minots, a name given to a certain sort of meal for the supply of the colonies, in which the inhabitants trade, as also in corn, wine, oil, saffron, fish, salt, wool, &c. Among the objects worthy of note may be mentioned the bridge lately built over the Tarn, and the fountain. It is twenty-one miles north-west of Montauban, thirty-six E. S. E. of Agen, and 504 south of Paris.

MOIST, *adj. & v. a.* French *moite*; Arm.

MOIS'TEN, *v. a.* } moves. Wet; damp;

MOIS'TENER, *n. s.* } juicy: to moist or

MOIS'TNESS, } moisten is to make

MOIS'TURE, } damp or wet in a small

degree: moistener, the person or thing that moistens: moistness and moisture, state of being damp or moderately wet: hence a small quantity of liquid.

His breasts are full of milk, and his bones are moistened with marrow. *Job xxi. 24.*

Sometimes angling to a little river near hand, which, for the moisture it bestowed upon roots of some flourishing trees, was rewarded with their shadow.

Sidney.

Write till your ink be dry; and with your tears Moist it again; and frame some feeling line.

Shakspeare.

All my body's moisture

Scarce serves to quench my furnace-burning heat.

Id.

A pipe a little moistened on the inside, so as there be no drops left, maketh a more solemn sound than if the pipe were dry.

Bacon.

Set such plants as require much moisture upon sandy, dry grounds.

Id. Natural History.

Pleasure both kinds take in the moistness and density of the air.

Id.

MOITTE, Jean Guillaume, a French statuary, was born at Paris, in 1747, of a family which produced several distinguished engravers and architects, and early displayed so much talent for drawing, that Pigalle, then the most eminent sculptor in Paris, requested that he might receive the young artist as a pupil. In 1768, Moitte went to Italy, and studied the remains of ancient art, without neglecting [the study of nature. He returned to France in 1773, was one of the first members of the national institute, received the cross of the legion of honour from Napoleon, and died in 1810. His works are distinguished for correctness of design, elevated conception, beauty of proportion, variety of expression, and delicacy of taste. A statue of a *sacrificateur* (1783) the bass-reliefs of several of the barriers of Paris; that of the frontispiece of the Pantheon, representing the country crowning the civic and warlike virtues (destroyed after the restoration, when the Pantheon was consecrated as the church of St. Genevieve); that for the tomb of Desaix: several bass-reliefs in the Louvre, representing the muse of history, with Moses and Numa; warriors devoting themselves for their country, in the chamber of peers,—are among his principal productions.

MOIVRE (Abraham), F. R. S., an eminent mathematician, born at Vitri in Champagne in 1667. On the revocation of the edict of Nantes, he determined to fly into England rather than abandon the Protestant religion. Before he left France, he had begun to study mathematics; and, having perfected himself in that science in London, he resolved to teach it. Newton's Principia showed him how little progress he had made in a science of which he thought himself master. From this work he acquired a knowledge of the geometry of infinites with as great facility as he had learned the elementary geometry. His success in these studies procured him a seat in the Royal Society of London, and in the Academy of Sciences at Paris. His merit was so much esteemed that he was called in to decide the famous dispute between Leibnitz and Newton, concerning the differential calculus. He published a Treatise on Chances in 1738, and another on Annuities in 1752; both extremely accurate. The Philosophical Transactions contain many interesting memoirs of his compo-

sition, some on the method of fluxions; others on the lunula of Hippocrates; others on physical astronomy, in which he resolved many important problems; and others on the analysis of the games of chance. He died in London in 1754, aged eighty-seven. He was intimately acquainted with the best authors of antiquity; and was often consulted about difficult passages in their works.

MOKDASI, a title among the oriental Christians, similar to that of hadsji among the Turks, given to those pilgrims who have not only performed the journey to Jerusalem, but kept the passover in it, and assisted at all the ceremonies of the holy weeks.

MOKONTPORE, or **MUKKUNPORE**, a town of Hindostan, in the province of Agra, is situated on the bank of the Issah River, and contains the mausoleum of the celebrated Mahometan saint Syed Bedia Addeen, or Shah Mudar. Immense numbers of pilgrims resort to this tomb in the Jummad al Avul of every year, and remain here a fortnight. From all the large towns they go in bodies, distinguished by flags, and accompanied by drums and music. The town is chiefly occupied by attendants on the tomb, clothed in black, who lay the pilgrims under heavy contributions. Long. 80° 20' E., lat. 26° 45' N.

MOKSCHAN, a town of the government of Penza, European Russia. It has five churches, a monastery, and 4100 inhabitants, chiefly employed in agriculture. It stands near the river Moksha, thirty-six miles W. N. W. of Penza. Long. 44° 50' E., lat. 58° 40' N.

MOLA, a considerable but decayed town of Italy, in the south-east part of the kingdom of Naples, on the Adriatic, and in the province of Bari. It has a good harbour, but the streets are irregular and gloomy. The chief trade is in the products of the adjacent soil. Twelve miles south-east of Bari.

MOLA, or **MOLA DI GAETA**, a town of Italy, situated on the Via Appia, and around which are seen ruins of tombs and other structures. It is in the north-west part of the kingdom of Naples, in the Terra di Lavoro, and is a long straggling place, but has a pleasant neighbourhood, and a fort. The inhabitants, about 2000, live in great poverty, bearing the appearance of, and being in reality little better than banditti. The most remarkable ruins are those of the Villa Ciceronis, in the neighbourhood of Formiæ. Three miles north of Gaeta, and thirty-seven north-west of Naples.

MOLA SALSÀ, salt cake, in antiquity, was barley parched, and afterwards ground to meal or flour, then mixed with salt and frankincense, with the addition of a little water. Thus prepared, it was sprinkled between the horns of the victim before it was killed in sacrifice. This act was called immolatio, and was common to the Greeks and Romans; with this difference, that the mola of the Romans was of wheat. The Greeks called it *αλη* or *αλουχτη*.

MOLAI (James de), the last grand master of the Knights Templars, was admitted into the order about 1265. On the death of William de Beaujeu, he was unanimously elected to the office of grand master. The great wealth and power

of the order, with their pride and dissolute manners, had at this time created them a multitude of enemies. In 1307 an order was issued for the general arrest of the knights throughout France. They were accused of heresy, impiety, and hideous crimes. Fifty-seven were burnt in the year 1311, and the order was abolished the following year by the council of Vienne. Molai was detained in prison at Paris till 1313, when his trial took place before commissioners appointed by the pope, and confessing the crimes alleged against him, he was condemned to perpetual seclusion. Having subsequently retracted his confession, he was executed as a relapsed heretic, and perished in the flames at Paris, March 18th, 1314.

MOLARES, or dentes molares, in anatomy, the large teeth, called in English the grinders. See ANATOMY.

MOLDAU, a large, rapid river of Bohemia, rising near the mountains that separate it from Bavaria, to the south-west of Prachatitz. It passes by Budweis, Teyn, and Prague, and joins the Elbe above Melnik. In its course it receives the Malsch, Buschnitz, Woltawa, Sasawa, and Miess, and is navigable as far as Hohenfurt.

MOLDAU, or MOLDAVA, a considerable river of Germany, rises in the Carpathian Mountains, traverses the Austrian province of the Bukowine, after which it enters the Turkish province of Moldavia, to which it gives name, and joins the Sereth at the town of Roman.

MOLDAVIA, a north-eastern province of European Turkey, situated between long. $26^{\circ} 16' 45''$ and $28^{\circ} 30' 15''$ E., and lat. $45^{\circ} 25'$ and $48^{\circ} 13' N.$, bounded on the east by Russia, on the west by Transylvania, on the north by Austrian Poland, and on the south by Wallachia and Bulgaria. Its length from north to south is nearly 200 miles; its breadth about 120, and its superficial extent since 1812, when its eastern division was ceded to Russia, not above 17,000 square miles. It is divided into Upper Moldavia, or Zara de Suss, and Lower Moldavia, or Zara de Schass; the first containing four, and the last nine minor districts. The surface of the country is one vast undulating plain, generally covered with grass, and without hedges or landmarks. The great Carpathian chain separates it from Transylvania; and various small lakes diversify the landscape. The principal rivers are the Danube, the Pruth, and the Sereth. The larger lakes those of Bratetsch and Dorohoe. The climate, though warm in summer, is severe in winter; and in the neighbourhood of marshes unhealthy in the warm season. Its chief products are wheat, barley, maize, and millet, wine, and tobacco. Large quantities of wine are exported to Poland and Russia. Some qualities bear a considerable resemblance to Champagne, and all the white wines of the mountains are fine. It has been estimated that more than a fortieth part of the arable land is in a state of tillage: the far greater part being in pasture, and supporting large numbers of cattle, beautiful horses, and sheep. The inhabitants are careful, likewise, of their breed of cattle, of which the annual export (chiefly to Silesia and Bohemia) is computed at 40,000: the export of horses is about 10,000;

that of sheep 220,000. The total number of sheep and goats in the country has been estimated at more than 3,000,000. Hogs are also largely fed in the forests, and bees are abundant: their honey is sent to Constantinople; their wax to Venice. The mineral productions are considerable, but few of the mines are wrought. Several of the rivers bring down small particles of gold. The trade of Moldavia is small, and it has no manufactures but for home consumption. The chief commerce, especially that of woollens and silks, is managed by Greek merchants. The Jews settled here deal chiefly in jewellery; the Russians in leather and tobacco; the Turks in Morocco leather, groceries, and perfumes.

Moldavia composed part of the ancient kingdom of Dacia, finally conquered by Trajan. The present inhabitants are the descendants of Goths, Huns, Tartars, and other barbarous tribes. They are governed by princes, called hospodars, who are always Greeks, and appointed by the sultan. Most of the inhabitants profess Christianity; but both boyars (nobles) and peasants are free from the capitation tax paid by other rayahs, or tributary Christians.

Mr. Wilkinson gives the following account of the present state of the common people:—The boyars resemble the barons in the feudal times of Europe. Their religious notions, grounded upon the most ridiculous superstitions, are extremely singular. They firmly believe in all sorts of witchcraft, in apparitions of the dead, in ghosts, and in all kinds of miracles performed by the images of saints, and by the virtues of the holy water. In illness, they place an image near them, and when they recover, though it were through the assistance of the ablest physician, they attribute their return to health to the good offices of the image alone. Their observance of Lent days is so strict, that the threats of instant death would hardly prevail upon anyone to taste the aliments specified in the endless catalogue of forbidden food. Their other christian duties, although similar to those of the superior classes of their countrymen, are carried to greater excess. Invoking the holy Virgin, or any saint, is always substituted for regular prayer. Divine providence is never directly addressed. The villages throughout the country are principally composed of peasants' huts, all built in the same style and of the same size. The walls are of clay, and the roofs thatched with straw, neither of which are calculated to protect the lodgers from the inclemency of the bad season. The ground floors are, however, occupied as long as the weather will permit, and in winter they retire to cells under ground, easily kept warm by means of a little fire made of dried dung and some branches of trees; which at the same time serves to cook their scanty food. Each family, however numerous, sleep in one of these subterraneous habitations, men, women, and children, all heaped up together; and their respective beds consist of one piece of coarse woollen-cloth, which serves in the double capacity of mattress and covering.

Their ordinary food is composed of a kind of dough, to which they give the name of *nam malinga*, made of the flour of Indian wheat, sometimes mixed with milk. The first two or

three days after a long Lent they sparingly indulge themselves in meat; but the greater part cannot afford even so great a treat, and content themselves with eggs fried with butter, and milk to their mammalinga. They continue the whole day out of doors at work, and they bear with indifference all the extremes of the weather. Their industry, however, is not of a very active kind, and they take frequent rest.

Notwithstanding this mode of life, and the supposed influence of an ungenial climate, the generality of the peasants are a fine race of people. They have no peculiar turn of features which may be called characteristic; from long intercourse with foreign nations, their blood seems to have become a mixture of many. The Eastern black eye and dark hair, the Russian blue eye and light hair, the Greek and Roman nose, and those features which distinguish the Tartars, are equally common amongst all the orders of these two nations. The dress of the male peasants bears some resemblance to that of the Dacians, as represented in the figures on Trajan's pillar at Rome. Their feet are covered with sandals made of goat skin. They wear a kind of loose pantaloons, which is fastened to the waist by a tight leather belt, and closes from the knee downwards. The upper part of the garment is composed of a tight waistcoat, and a short jacket over it, of coarse cotton stuff; and in winter is added a white sheep-skin, which is hung over the shoulders in the manner of a hussar's pelisse. The head is not deprived of any part of its hair, which is twisted round behind, and a cap is used to cover it, also made of sheep-skin, but which in summer is exchanged for a large round hat. The beard is shaved, and the whiskers alone are left to their natural growth. The women are clothed from the neck to the ancles with a long gown of thick cotton stuff, of a light color, made tight at the waist in such a manner as to render the whole shape visible. They generally go bare-footed, and they cover their heads with a common handkerchief, merely meant to keep up the hair. On holidays they add to their common shift a colored gown of a better sort; they button it up from the waist to the neck, round which they wear, as an ornament, one or more strings of beads or paras, pierced through for the purpose. Moldavia also contains a considerable number of gypsies.

Moldavia has few towns, its thinly scattered population not exceeding altogether 300,000.

Situated between Russia, Austria, and Turkey, this province often becomes the scene of hostile operations, and for the last century the inhabitants have hardly had time to breathe after one disastrous war, before another commenced. The administration of justice is in a very imperfect state; the frequent change of rulers, and the right which they have of annulling all the decrees of their predecessors, preventing all improvement: education is neglected: the revenue consists chiefly in a sort of capitation tax, collected in small monthly payments, and imposts on cattle and different sorts of provisions, affording a total of nearly £200,000. The direct tribute to the Porte is about £15,000; the presents to the sultan, his mother, and ministers, are said to amount to about an equal sum.

MOLE, *n. s.* Sax. *mæl*; Teut. *mahl*; French *mole*; Lat. *mola*. A natural spot on the skin.

To nourish hair upon the *moles* of the face, is the perpetuation of a very ancient custom.

Broune's Vulgar Errors.

Such in painting are the warts and *moles*, which, adding a likeness to the face, are not therefore to be omitted.

Dryden.

That Timothy Trim and Jack were the same person, was proved, particularly by a *mole* under the left pap.

Arbutnot.

The peculiarities in Homer are marks and *moles*, by which every common eye distinguishes him.

Pope.

MOLE, *n. s.* Fr. *mole*; Lat. *moles*. A mound; or dyke.

Sion is streightened on the north side by the scarred wall of the *mole*.

Sandys.

With asphaltic slime the gathered beech

They fastened; and the *mole* immense wrought on

Over the foaming deep high-arched; a bridge,

Of length prodigious. *Milton's Paradise Lost.*

The great quantities of stones dug out of the rock could not easily conceal themselves, had they not been consumed in the *moles* and buildings of Naples.

Addison on Italy.

Bid the broad arch the dangerous flood contain,
The *mole* projected break the roaring main. *Pope.*

MOLE , <i>n. s.</i>	} Belg. <i>mol</i> . An animal.			
MOLECAST ,		} The <i>TALPA</i> , which see: a molecast and molehill are		
MOLECATCHER ,			} the hillock thrown up by	
MOLEHILL ,				} the <i>mole</i> : molecatcher, one
MOLETRACK,					} who lives by catching and
MOLEWARP ,	} destroying these animals: moletrack, their course			
under ground: molewarp, another name for them.				

Get *molecatcher* cunningly *moule* for to kill,

And harrow and cast abroad every hill. *Tusser.*

You fill your solitariness with the conceits of the poets, whose liberal pens can as easily travel over mountains as *molehills*.

Sidney.

Tiead softly, that the blind *mole* may not

Hear a foot fall; we now are near his ce!l.

Shakspeare.

The *molewarp's* brains mixt therewithal,

And with the same the pismire's gall. *Drayton.*

The rocks, on which the salt-sea billows beat,

And Atlas tops, the clouds in height that pass,

Compared to his huge person *molehills* be. *Fairfax.*

A churchwarden, to express Saint Martin's in the Fields, caused to be engraved a martin sitting upon a *molehill* between two trees.

Peacham.

Mountains, which to your Maker's view

Seem less than *molehills* do to you. *Roscommon.*

What is more obvious than a *mole*, and yet what more palpable argument of Providet-*ce*? *More.*

Strange ignorance! that the same man who knows How far yond' mount above this *molehill* shows, Should not perceive a difference as great Between small incomes and a vast estate! *Dryden.*

In Spring let the *molecasts* be spread, because they hinder the mowers. *Mortimer's Husbandry.*

The pot-trap is a deep earthen vessel set in the ground, with the brim even with the bottom of the *moletracks*.

Mortimer.

Moles have perfect eyes, and holes for them through the skin, not much bigger than a pin's head.

Ray on the Creation.

Our politician having baffled conscience, must not be nonplused with inferior obligations; and, having leapt over such mountains, lie down before a *molehill*.

South's Sermons.

Thy arts of building from the bee receive ;
Learn of the *mole* to plow, the worm to weave.

Pope.

Superficial writers, like the *mole*, often fancy themselves deep, when they are exceeding near the surface.

Shenstone.

MOLE, in architecture, a massive work formed of large stones laid in the sea by means of coffer dams, extended either in a right line or an arch of a circle, before a port, which it serves to close; to defend the vessels in it from the impetuosity of the waves, and to prevent the passage of ships without leave.

MOLE, moles, among the Romans, was also used for a kind of mausoleum, built in manner of a round tower on a square base, insulate, encompassed with columns, and covered with a dome. The mole of the emperor Adrian, now the castle of St. Angelo, was the greatest and most stately of all the moles. It was crowned with a brazen pine-apple, wherein was a golden urn containing the ashes of the emperor.

MOLE, in zoology. See **TALPA**. Moles in the fields may be destroyed by taking a head or two of garlic, onion, or leek, and putting it into their holes; on which they will run out, and you may kill them with a spear or dog. Or pounded hellebore, white or black, with wheat-flour, the white of an egg, milk, and sweet wine, or metheglin, may be made into a paste, and pellets as big as a small nut may be put into their holes: the moles will eat this with pleasure, and will be killed by it. In places where you would not dig nor break much, the fuming their holes with brimstone, garlic, or other unsavory things, drives them away; and, if you put a dead mole into a common haunt, it will make them forsake it. Or take a mole-spear or staff, and where you see them cast go lightly; but not on the side betwixt them and the wind, lest they perceive you; and, at the first or second putting up of the earth, strike them with your mole-staff, downright, and mark which way the earth falls most; if she casts towards the left hand, strike somewhat on the right hand; and so on the contrary, to the casting up of the plain ground, strike down and there let it remain; then take out the tongue in the staff, and with the spattle, or flat edge, dig round about your grain to the end thereof, to see if you have killed her; and, if you have missed her, leave open the hole and step aside a little, and perhaps she will come to stop the hole again, for they love but very little air; and then strike her again; but, if you miss her, pour into the hole two gallons of water, and that will make her come out. Many may also be taken, when going out in a morning to feed, or coming home when fed.

MOLE-HILLS are a very great prejudice to pasture lands, not only in wasting so much of the land as they cover, but in hindering the scythe in mowing. In the west of England they use a peculiar kind of instrument for the breaking up of these; it is a flat board, very thick, and of about eight inches in diameter, into which there is fastened a perpendicular handle of three or four feet long. It has four broad and sharp iron teeth at the front, which readily cut through the hill, and spread the earth it consists of; and be-

hind there is a large knob for breaking the clods. There is, however, a better instrument for destroying these hills, where they are in very great numbers. This is a kind of horse-machine; it has a sharp iron about three feet over, and with a strong back. It is about four or five inches broad, and has two long handles, for a horse to be harnessed to, and a cross bar of iron to strengthen it at the bottom of the handles, reaching from the one handle to the other. The middle of this cross bar is furnished with one, two, or more, sharp pieces of iron like small plough-shares, to cut the mole-hills into two, three, or more parts. The iron behind is of a semi-circular figure. A single horse is harnessed to this machine, and a boy must be employed to drive it, and a man to hold and guide it; the sharp irons or shares are the first things that meet the hill; they run through it, break its texture, and cut it into several parts; and the circular iron, following immediately behind them, cuts up the whole by the roots, and leaves the land level. This instrument will destroy as many mole-hills in one day as a common laborer can in eight, and would be of very great advantage to the kingdom if brought into general use. It is to be observed, that, this leaving a naked space in the place of every hill, it will be necessary to go over the land, and sow them with hay-seed, otherwise these spots will want the produce of grass the first years. The farmers in some parts of England are not willing to destroy the mole-hills, but let them stand from year to year, supposing that they get some ground by them, but the advantage by this means is so little that it does not balance the unsightliness and damage to the mowing.

MOLECULES, in chemistry, is used to signify the constituent particles of bodies. Chemists have divided them into integrant molecules and constituent molecules. The former are such as have the same properties as the mass, and are therefore compound or simple, as the mass is one or the other. Thus a mass of pure metal consists of integrant molecules, each of which has the metallic properties of the mass. A mass of alloy, in the same manner, is composed of integrant molecules, each of which is compounded of the different substances forming the alloy. If we decompose a compound integrant molecule, we obtain the constituent molecules of which it consists. An integrant molecule of water is composed of constituent molecules of oxygen and hydrogen.

MOLEST, *v. a.* } Fr. *molestier*; Latin
MOLESTATION, *n. s.* } *molesto*. To disturb;
vex; trouble.

If they will firmly persist concerning points which hitherto have been disputed of, they must agree that they have *molested* the church with needless opposition. *Hooker.*

MOLESWORTH (Robert), lord viscount Molesworth, an eminent statesman and writer, born in Dublin in 1656. He was attained by king James for his activity on the invasion by the prince of Orange; who, when settled on the throne, made him a member of the privy-council, and sent him envoy-extraordinary to Denmark.

Here he resided above three years, and then returned upon some disgust, without an audience of leave. Upon his return he drew up his Account of Denmark, in which he represented that government as arbitrary; and hence gave great offence to George prince of Denmark. The Danish envoy presented a memorial to king William concerning it; and furnished materials for an answer, which was executed by Dr. William King. Mr. Molesworth was member of the houses of commons in both kingdoms: king George I. made him a commissioner of trade and plantations, and advanced him to the peerage of Ireland, by the title of baron Philipstown, and viscount Molesworth of Swords. He died in 1725. He wrote an address to the house of commons, for the encouragement of agriculture; and translated Franco-Gallia, a Latin treatise of the civilian Hottoman.

MOLEVILLE (Francis Bertrand de), a French statesman and historian, born in 1744, first occupied the situation of attendant of the finances in Brittany. In October 1791 he was appointed minister of the marine. Being accused in the Legislative Assembly of having favored the emigration of the officers, in March 1792, he resigned his post. He subsequently took refuge in England, where he employed himself in literary undertakings. He died at Paris in 1819. Among his works are, A Chronological History of England, 6 vols. 8vo.; Memoirs relative to the last Year of the reign of Louis XVI.; and Annals of the French Revolution; all which were first published in English, being translated from the MSS. of the author.

MOLIERE (John Baptist), a famous French comedian, whose original name was Poquelin. He was the son of a valet de chambre, and was born at Paris about 1620. He studied the classics under the Jesuits in the college of Clermont, and was designed for the bar; but, on quitting the law schools, he became an actor. From his fondness for the drama, he continued till his death to exhibit plays, which were greatly applauded. It is said the first motive of his going upon the stage was to enjoy the company of an actress, for whom he had contracted a violent affection. His last comedy was *Le Malade Imaginaire*, which was first acted in 1673; and Moliere died on the fourth night of its representation; some say in acting the very part of the dead man; but others say he died in his bed that night, from the bursting of a vein in his lungs by coughing. The king prevailed with the archbishop of Paris to suffer him to be buried in consecrated ground; though he had irritated the clergy by his *Tartuffe*. The best editions of his works are those of Amsterdam, 5 vols. 12mo., 1699; and Paris, 6 vols. 4to., 1734.

MOLINA, a celebrated Jesuit, founder of the sect of the Molinists. He taught that the operations of divine grace were entirely consistent with the freedom of human will; and introduced a new hypothesis to remove the difficulties attending the doctrines of predestination and liberty, and to reconcile the jarring opinions of Augustines, Thomists, Semi-Pelagians, and other polemical divines. He affirmed that the decree of predestination to eternal glory was founded

upon a previous knowledge and consideration of the merits of the elect; that the grace, from whose operation these merits are derived, is not efficacious by its own intrinsic power only, but also by the consent of our own will, and because it is administered in those circumstances in which the Deity, by that branch of his knowledge which is called *scientia media*, foresees that it will be efficacious. The kind of prescience, denominated in the schools *scientia media*, is that foreknowledge of future contingents that arises from an acquaintance with the nature and faculties of rational beings, of the circumstances in which they shall be placed, of the objects that shall be presented to them, and of the influence which their circumstances and objects must have on their actions.

MOLINOS (Michael), a Spanish priest, born in the diocese of Saragossa in 1627. He entered into priest's orders, but never held any benefice. He wrote a work entitled *Il Guida Spirituale*, containing his peculiar notions, which was much read in Italy and Spain. His followers are called Quietists; because his chief tenet was that men ought to annihilate themselves to be united to God, and afterwards remain in quietness of mind, without being concerned about what may happen to the body. He was taken up in 1687, and his sixty-eight propositions were examined by the pope and inquisitors, who decreed that his doctrine was false and pernicious; that his books should be burnt; and that he should recant his errors publicly in the Dominican church. Thus he was condemned to perpetual imprisonment, in his sixtieth year, for doctrines which he had been spreading twenty-two years before. He died in prison in 1692.

MOLISE, the ancient Samnium, a mountainous province of Naples, surrounded by the Capitanata, Abruzzo, Principato Ultra, and Terra di Lavoro. It contains about 1200 square miles, and is watered by the Tainaro, Bifuno, and Tregno rivers; its forests and pasturages are extensive, but are occupied by goats, sheep, and hogs more than cattle. Inhabitants 207,000.

MOLLIENT, *adj.* } Lat. *molliens, mollis.*
 MOLLIFIABLE, } Softening: mollifiable
 MOLLIFICATION, *n. s.* } means that which may
 MOLLIFIER, } be softened: mollifi-
 MOLLIFY, *v. a.* } cation, the act of mol-
 lifying; purification; mitigation: mollifier, a thing or person that softens or mitigates; to mollify (Fr. *mollir*), to assuage; soften; quiet; qualify.

Sores have not been closed, neither bound up
 neither *mollified* with ointment. *Isaiah i. 6.*

Neither herb, nor *mollifying* plaister, restored
 them to health. *Wisd. xvi. 12.*

Thinking her silent imaginations began to work
 upon somewhat, to *mollify* them, as the nature of
 musick is to do, I took up my harp. *Sidney.*

He brought them to these savage parts,
 And with sweet science *mollified* their stubborn
 hearts. *Spenser.*

Some *mollification*, sweet lady.

Shakspeare.

For induration or *mollification*, it is to be inquired
 what will make metals harder and harder, and what
 will make them softer and softer. *Bacon.*

The root hath a tender, dainty beat; which, when

it cometh above ground to the sun and air, vanisheth ; for it is a great *mollifier*. *Id.*

Our proceedings in the cure of the painful tumors of the body, direct us what to do in the spiritual : we lay suppling and *mollifying* plaisters to these angry swellings, ere we make use of the lancet.

Bp. Hall.

They would, by yielding to some things, when they refused others, sooner prevail with the houses to *mollify* their demands, than at first to reform them.

Clarendon.

The crone on the wedding night, finding the knight's aversion, speaks a good word for herself, in hope to *mollify* the sullen bridegroom. *Dryden.*

Cowley thus paints Goliath :

'The valley, now, this monster seemed to fill,
And we, methought, looked up to him from our hill ;'

where the two words, seemed and methought, have *mollified* the figure. *Dryden.*

MOLLOY (Charles), Esq., a well-known writer of the eighteenth century, was born in Dublin, and educated at Trinity College, of which he became a fellow. On his coming to England he entered of the Middle Temple, and is said to have had a very considerable hand in a periodical paper called *Fog's Journal* ; and to have been almost the sole author of another well-known paper, entitled *Common Sense*. He had large offers made him to write in defence of Sir Robert Walpole, but rejected them ; notwithstanding which, at the change of the ministry in 1742, he was entirely neglected. But, having married a lady of fortune, he treated the ingratitude of his patriotic friends with contempt. He also wrote three dramatic pieces, viz. *The Perplexed Couple* ; *The Coquet* ; and *The Half-pay Officers* ; none of which met with much success. He died 16th July, 1767.

MOLLUCELLA, in botany, a genus of plants belonging to the didynamia class, and gymnospermia order: CAL. campanulate, dilated, broader than the corolla, spinous. Species six, natives of the Mollucca Islands, Syria, and Tartary ; some of them shrubs, others annual herbaceous plants.

MOLLUGO, African chickweed, a genus of the trigynia order, and triandria class of plants ; natural order twenty-second, caryophyllæ: CAL. pentaphyllous: COR. none: CAPS. trilocular and trivalved. Its characters are these: the empalement of the flower is composed of five oblong small leaves, colored on their insides, and permanent ; the flower has five oval petals shorter than the empalement, and three bristly stamina, which stand near the style, terminated by single summits ; it has an oval germen, having three furrows, supporting three very short styles ; the germen becomes an oval capsule with three cells, filled with small kidney-shaped seeds. There are several species, few of which are admitted into gardens. Miller reckons two, and Linné five species. This plant is said to have an aperitive virtue.

MOLLUSCA, in zoology, the second genus of vermes or worms. These are simple naked animals, not included in a shell, but furnished with limbs, and comprehend eighteen subordinate genera, and 110 species.

MOLMUTIN LAWS, in ancient British history,

the laws of Dunwalla Molmutius, the sixteenth king of the Britons. They are said to have been in use till the Norman conquest.

MOL(), a philosopher of Rhodes, called also Apollonius. Some are of opinion that the philosopher Apollonius and Molo were different persons, both natives of Alabanda, and disciples of Meneclæ. They both visited Rhodes, and there opened a school ; but Molo came some time after Apollonius. Molo had Cicero and Julius Cæsar among his pupils.

MOLOCH, or MOLECH, Heb. מֹלֶךְ, i. e. king, a false god of the Ammonites, who dedicated their children to him by making them 'pass through the fire,' as the Scriptures express it. There are various opinions concerning this method of consecration. Some think the children leaped over a fire sacred to Moloch ; others that they passed between two fires ; but the most probable opinion is that they were really burnt in the fire, as sacrifices to this god. For, although it was usual among the pagans to lustrate or purify with fire, yet it is expressly said that the inhabitants of Sepharvaim burnt their children in the fire to Anamelech and Adramelech ; deities similar to Moloch of the Ammonites. Moses, in several places, forbids the Israelites to dedicate their children to this god as the Ammonites did, and threatens utter extirpation to such as were guilty of this abominable idolatry. The Hebrews were, however, much addicted to this barbarous superstition. Amos, and after him Stephen, reproaches them with having carried along with them into the wilderness the tabernacle of their god Moloch. Solomon built a temple to Moloch upon the mount of Olives ; and Manasseh, long after, imitated his impiety, by making his son pass through the fire in honor of Moloch. It was chiefly in the valley of Tophet and Hinnom, east of Jerusalem, that the Israelites paid their idolatrous worship to this false God. See BEN-HINNOM and GEHENNA. Some mythologists make Moloch the same with Saturn, to whom human sacrifices were offered ; others the sun. Moloch was likewise called Milcom, as appears from 1 Kings xi. 5, 7, 33.

MOLOGA, a town of European Russia, in the government of Jaroslav, situate at the junction of the Mologa River with the Wolga, in long. 38° 22' E., and lat. 58° 1' N. Population, generally employed on the Wolga, 2000.

MOLOSSES, or MOLASSES, that gross fluid matter remaining of sugar after refining, and which no boiling will bring to a consistence more solid than that of syrup ; hence also called syrup of sugar. Properly, molosses are only the sediment of one kind of sugar called chypre, or brown sugar, which is the refuse of other sugars not to be whitened or reduced into loaves. Molosses are much used in Holland for the preparation of tobacco, and also among poor people instead of sugar. There is a kind of brandy or spirit made of molosses.

MOLOSSES, ARTIFICIAL. There has been found a method of making molosses from apples, without the addition of sugar. The apple that succeeds best in this operation is a summer-sweeting of a middle size, pleasant to the taste, and so full of juice that seven bushels will yield a barrel of

cyder. The method of making it is this:—The apples are to be ground and pressed; then the juice is to be boiled in a large copper, till three-quarters of it be evaporated; this will be done, with a moderate fire, in about six hours, with the quantity of juice above-mentioned: by this time it will be of the consistence and taste, as well as of the color, of molosses. These new molosses serve all the purposes of the common kind, and are of great use in preserving cyder. Two quarts, put into a barrel of racked cyder, will preserve it, and give it an agreeable color. The invention of this kind was owing to Mr. Chandler of Woodstock in New England, who, living at a distance from the sea, and where the common molosses were very dear and scarce, provided this for the supply of his own family, and soon made it the practice among people of the neighbourhood. It is to be observed that this sort of apple, the sweeting, is of great use in making cyder, one of the very best kinds we know being made of it. The people in New England also feed their hogs with the fallings of their orchards of these apples; in consequence of which their pork is the finest in the world.

MOLOSSES SPIRIT, a very clean and pure spirit, much used in England, and made from molosses or common treacle dissolved in water, and fermented in the same manner as malt, or the common malt spirit. See **DISTILLATION**. Molosses spirit coming dearer than that of malt, it is frequently met with basely adulterated with a mixture of that spirit, and indeed seldom is to be bought without some dash of it. Many have a way of mixing malt in the fermenting liquor: by this the produce of the whole is greatly increased, and the maker may assure the buyer that the spirit is pure as it ran from the worm. In most of the nice cases in our compound distillery, the molosses spirit supplies the place of a pure and clean spirit. Cinnamon, citron, and other fine cordial waters, are made with it; for the malt spirit would impart to these a very disagreeable flavor. Molosses spirit gives a yellow stain to the hands, or other substances dipped into it; and may therefore be of use in dyeing. The vinegar-makers may also find use for it; but the most advantageous of all its uses is to the distiller; a quantity of it added to new treacle for fermentation is of great use in the process, and increases very considerably the quantity of spirit; but the proportion, in regard to the new matter, must not be too great.

MOLOSSIA, or **MOLOSSIS**, a territory of Epirus, so named from king Molossus, son of Pyrrhus and Andromache. This country had the bay of Ambracia on the south, and the country of the Perræbeans on the east. The dogs of the place were famous, and received the name of Molossi among the Romans. Dodona was the capital of the country, though others reckon it the chief city of Thesprotia.

MOLOSSUS, in the Greek and Latin poetry, a foot consisting of three long syllables. As *audiri, cantabant, virtutem*. It takes its name either from a dance in use among the Molossi, or from the temple of Jupiter Molossus, where odes were sung, in which this foot had a great share; or else because the march of the Molossi, when

they went to the combat, was composed of these feet, or had the cadence thereof. The same foot was also called among the ancients, *vertumnus, extensipes, hippius, et canius*.

MOLSA (Tarquinia), daughter of Camillo Molsa, a knight of the order of St. James of Spain, a most accomplished lady, who was born at Ferrara. Her father early observing the excellence of her genius, procured her the best masters in every branch of literature and science. Lazarus Labadini taught her polite literature; and her Latin compositions show that she profited by his instructions. She studied Aristotle under Camillo Corcapani; Anthony Guarini taught her astronomy; she learned poetry under Francis Patricius; Greek, logic, and philosophy under P. Latoni. The rabbi Abraham taught her the Hebrew language; and John Marier Barbier instructed her in the Tuscan, in which she wrote a great number of elegant verses, letters, and other pieces, which are still held in esteem. She also translated several pieces from Greek and Latin in an elegant manner. She attained the highest degree of perfection in music; and played upon the violin and lute, and sung to them in a most exquisite taste. She instituted a choir of ladies, over which she presided. She was in high reputation at the court of Alphonsus II. duke of Ferrara. But the most decided compliment to her merit she received from Rome. By a decree of the senate, she was honored with the title of Singular, and the rights of Roman citizens were granted to her and the whole family. She was married, but lost her husband without having any children.

MOLTEN, part. pass of **MELT**, which see.

Brass is *molten* out of the stone.

Job xxviii. 2.

In a small furnace made of a temperate heat; let the heat be such as may keep the metal *molten*, and no more.

Bacon.

The riches and pride of their outward habit, are they willing to part with, to their *molten* god.

Sp. Hall.

Love's mystick form the artizans of Greece
In wounded stone, or *molten* gold express. *Prior.*

MOLUCCA ISLANDS. The Moluccas, in the former extent of this name, included all the islands situated to the east of the Molucca passage, or in about long. 126° E. The word seems to be Arabic, and to signify Royal Islands, each of them being anciently the residence of a sovereign. This name was afterwards more particularly applied to the Spice Islands of **BANDA AMBOYNA**, **CERAM**, **TERNATA**, **TIDORE**, and **BATCHIAN**, which see in their alphabetical places.

These islands present the appearances of having undergone some great natural convulsion, being singularly broken, and rising in enormous peaks from the ocean; most of them are also volcanoes either extinct or active. Earthquakes are likewise very frequent, though seldom violent.

The nature of the climate, and of the soil in most of these islands, prevent the cultivation of any kind of grain; the former being, for one season, a constant rain, and for the other an uninterrupted drought; while the latter is in general either spongy or rocky; hence the staple food of the islanders is derived from the sago palm,

which nature has given to them in vast profusion, as if to compensate for the corn she has denied them. The chief riches of these islands, however, and without which they would never have attracted the notice of Europeans, are their nutmegs and cloves, which are indigenous in no other region of the globe. The most remarkable animals are the baberooussa, or hogdeer, the opossum, the phalanger, the moschus pygmæus, and the wild hogs and common deer.

Valentyn notices a singular phenomenon in that part of the sea usually called the Banda Sea. Between June and September, every year, a current of white water occupies this part, first appearing towards the south-east, near the islands of Key and Timor Laut, and gradually spreading to the shores of Ceram on the north, and of Ombay on the west, beyond which it disappears between Flores and Celebes. During the day its color is that of milk, and in the night it emits a light similar to that of the horizon; the water which composes it seems to be agitated internally, and, while the phenomenon lasts, the fish disappear from the coasts.

The Portuguese, who first came hither in 1510, succeeded in establishing themselves in possession of the islands, which were wrested from them by the Dutch in 1607. They remained with the Dutch since that period, till their capture by the British during the late wars, by whom, however, they were again surrendered in 1814 to their former rulers. They were formerly subject in succession to the Chinese, the Javanese, and the Malaysians; and the Mahometans had begun to settle in them, and convert the inhabitants, but a little before they were discovered by the Portuguese. We have described each of these islands under its particular appellation.

MOL'Y, *n. s.* Fr. *moly*; Lat. *moly* Swe d. *mola*. A plant. See below.

Sweet is the nut, but bitter is his pill;
Sweet is the bloomflower, but yet sour enough;
And sweet his *moly*, but his root is ill;
To every sweet with sour is tempered still,
That maketh it be coveted the more:
For easy things, that may be got at will,
Most sorts of men do set but little store.

Spencer.

Moly, or wild garlick, is of several sorts; as the great *moly* of Homer, the Indian *moly*, the *moly* of Hungary, serpent's *moly*, the yellow *moly*, Spanish purple *moly*, Spanish silver-capped *moly*, Dioscorides's *moly*, the sweet *moly* of Montpellier: the roots are tender, and must be carefully defended from frosts: as for the time of their flowering, the *moly* of Homer flowers in May, and continues till July, and so do all the rest except the last, which is late in September: they are hardy and will thrive in any soil.

Mortimer.

The sovereign plant he drew,
And shewed its nature, and its wonderous power,
Black was the root, but milky white the flower;
Moly the name. *Pope's Odyssey.*

MOLY, has been rendered famous by Homer; and hence has been much enquired into, as to its true sense, by the botanists of almost all times. The old interpreters of Homer explain this word by the wild rue; and the only reason for this is, that at some time, probably long after the days

of Homer, the people of Cappadocia called the wild rue *moly*. But this plant is wholly different from the *moly* of Homer, which Theophrastus affirms grew in his time in Arcadia in great plenty, and had a round bulbous root like an onion, and long and grassy leaves like the squill. On the whole, the *moly* of Homer seems to have been a species of allium or garlic.

MOLYBDENUM, in chemistry and metallurgy, a metal which is found mineralized by sulphur in the ore called sulphuret of molybdena. This ore, which is very scarce, is found at Glenely in Inverness-shire, imbedded in chlorite-slate, and its granite at Thap in Westmoreland, Coldbeck in Westmoreland, and Huel Gorland in Cornwall. It occurs also in Norway, and in other parts of Europe, in Greenland, and in Siberia. It appears to be a compound of 60 molybdenum and 40 sulphur, and so much resembles plumbago in many of its properties, that they were long considered as varieties of the same substance. It is of a light lead-grey color; its surface is smooth, and feels unctuous; its texture is lamellated; it soils the fingers, and marks paper blueish-black, or silver-grey. It may be cut with a knife. It is generally found in compact masses; seldom in particles, or crystallised.

Scheele, in 1778, showed that from this ore a peculiar acid might be obtained, and in 1782 molybdenum was first procured in a metallic state by Hielm. To obtain this metal is a task of the utmost difficulty. Few chemists have since succeeded in producing this metal, on account of its great infusibility. The method recommended in general is the following:—Molybdic acid is to be formed into a paste with oil, dried at the fire, and then exposed to a violent heat in a crucible lined with charcoal. By this means the oxide becomes decomposed; a black agglutinated metal is obtained, very brittle under the finger, and having a metallic brilliancy. The globules are grey, brittle, and extremely infusible. When heated in open vessels, this metal combines with the oxygen of the atmosphere and is converted into the white or per-oxide. It is susceptible of three states of oxidisation, giving a brown, a blue, and a white oxide. The two latter having acid properties, are known also by the names of the molybdous and the molybdic acids. Nitric acid readily oxidises and acidifies the metal. Nitre detonates with it, and the remaining alkali combines with its oxide. Molybdenum unites by fusion with several of the metals, and forms brittle or friable compounds. No acid acts on it but the nitric and nitromuriatic. Several acids act on its oxide, and afford blue solutions. The specific gravity of molybdenum is 8.611. When dry, molybdate of ammonia is ignited in a crucible with charcoal powder, it is converted into the brown oxide of the metal. This has a crystallised appearance, a copper-brown color, and a specific gravity of 5.66. It does not form salts with acids. See CHEMISTRY.

MOLYBDIC ACID. The native sulphuret of molybdenum being roasted for some time, and dissolved in water of ammonia, when nitric acid is added to this solution, the molybdic acid precipitates in fine white scales, which become yellow on melting and subliming them. It changes

the vegetable blues to red, but less readily and powerfully than the molybdeous acid.

M. Bucholz found that 100 parts of the sulphuret gave 90 parts of molybdc acid. In other experiments, in which he oxidised molybdenum, he found that 100 of the metal combined with from 49 to 50 of oxygen. Berzelius, after some vain attempts to analyse the molybdates of lead and barytes, found that the only method of obtaining an exact result was to form a molybdate of lead. He dissolved 10 parts of neutral nitrate of lead in water, and poured an excess of solution of crystallised molybdate of ammonia into the liquid. The molybdate of lead, washed, dried, and heated to redness, weighed 11.068. No traces of lead were found in the liquid by sulphate of ammonia; hence these 11.068 of lead evince 67.3 per cent. of oxide of lead. This salt then is composed of

Molybdc acid . . .	39.194	9.0
Oxide of lead . . .	60.806	14.0
	100.000	

And from Bucholz we infer, that this prime equivalent 9, consists of 3 of oxygen + 6 metal; while molybdeous acid will be 2 oxygen + 6 metal = 8.0.

Molybdc acid has a specific gravity of 3.460. In an open vessel it sublimes into brilliant yellow scales; 960 parts of boiling water dissolve one of it, affording a pale yellow solution, which reddens litmus, but has no taste. Sulphur, charcoal, and several metals, decompose the molybdc acid. Molybdate of potash is a colorless salt. Molybdc acid gives, with nitrate of lead, a white precipitate, soluble in nitric acid; with the nitrates of mercury and silver, a white flaky precipitate; with nitrate of copper a greenish precipitate; with solutions of the neutral sulphate of zinc, muriate of bismuth, muriate of antimony, nitrate of nickel, muriates of gold and platinum, it produces white precipitates. When melted with borax it yields a bluish color; and paper dipped in its solution becomes, in the sun, of a beautiful blue.

The neutral alkaline molybdates precipitate all metallic solutions. Gold, muriate of mercury, zinc, and manganese, are precipitated in the form of a white powder; iron and tin, from their solutions in muriatic acid, of a brown color; cobalt of a rose color; copper, blue; and the solutions of alum and quicklime, white. If a dilute solution of recent muriate of tin be precipitated, by a dilute solution of molybdate of potash, a beautiful blue powder is obtained.

The concentrated sulphuric acid dissolves a considerable quantity of the molybdc acid, the solution becoming of a fine blue color as it cools, at the same time that it thickens; the color disappears again on the application of heat, but returns by cooling. A strong heat expels the sulphuric acid. The nitric acid has no effect on it; but the muriatic dissolves it in considerable quantity, and leaves a dark blue residuum when distilled. With a strong heat it expels a portion of sulphuric acid from sulphate of potash. It also disengages the acid from nitre and common salt by distillation. It has some action upon the filings of the metals in the moist way.

The molybdc acid has not been yet employed in the arts.

MOLYBDOUS ACID. The deut-oxide of molybdenum is of a blue color, and possesses acid properties. Triturate 2 parts of molybdc acid, with 1 part of the metal, along with a little hot water, in a porcelain mortar, till the mixture assumes a blue color. Digest in 10 parts of boiling water, filter, and evaporate the liquid in a heat of 120°. The blue oxide separates. It reddens vegetable blues, and forms salts with the bases. Air or water, when left for some time to act on molybdenum, converts it into this acid. It consists of about 100 metal to 34 oxygen.

MOLYN (Peter), surnamed Tempesta, an eminent painter, born at Haerlem in 1637. He was the disciple of Snyders, whose style of painting he at first imitated. But his genius led him to the study of dismal subjects; and as he excelled in painting tempests, storms, and shipwrecks, he was called Tempesta. His pictures are very rare, and held in great estimation. The name of Pietro Mulier, or de Mulieribus, was given him on account of having caused his wife to be assassinated, in order to marry a young lady of Genoa. But this villainous transaction being discovered, he was seized, imprisoned, and capitally condemned. However, his great merit as an artist occasioned a mitigation of the sentence; but he was still detained in prison, where he followed his profession, and would have continued there in all probability for life, had he not escaped to Placentia, when Louis XIV. bombarded the city of Genoa, after he had been in confinement sixteen years. To this artist are attributed several very neat prints, executed with the graver only, in a style greatly resembling that of John Vander Velde. They consist chiefly of candle-light pieces and dark subjects.

MOLYN (Peter), the elder, a native of Holland, and a painter; but not so eminent nor so infamous as Tempesta. Some suppose the prints above mentioned ought to be ascribed to the latter; as, though very neatly executed, they are labored heavy performances, and not equal in any degree to what one might expect from the hand of an artist of so much repute as Tempesta.

MOLYNEUX (Dr. William), a celebrated mathematician and astronomer, born in Dublin, in 1656. In 1675 he entered in the Middle Temple, where he spent three years in the study of the law; but the bent of his genius strongly tended towards mathematics and philosophy. Returning to Ireland, in 1678, he married Lucy, the daughter of Sir William Domville, attorney-general. Being master of an easy fortune, he continued to prosecute his studies in natural and experimental philosophy, particularly astronomy; and about 1681 commenced a literary correspondence with Flamstead the king's astronomer, which he kept up for several years. In 1683 he formed a design of erecting a philosophic society at Dublin, in imitation of the Royal Society at London; and by the countenance of Sir William Petty, who accepted the office of president, they began a weekly meeting that year, when our author was appointed their first secretary. Mr. Molyneux's reputation for learning recommended

him, in 1684, to the favor of the duke of Ormond, then lord lieutenant of Ireland; by whose influence he was appointed that year, with Sir William Robinson, surveyor-general of the king's buildings, and chief engineer. In 1686 he was sent abroad to view the principal fortresses in Flanders. He travelled with lord Mountjoy through that country, Holland, part of Germany, and France. Upon his return from Paris to London, in April 1689, he published his *Sciothericum Telescopium*, containing a description of the structure and use of a telescopic dial invented by him. He spent two years with his family at Chester, where he wrote his *Dioptrics*, dedicated to the Royal Society. Here he lost his lady, who died soon after she had brought him a son. As soon as tranquillity was restored in Ireland, he returned home; and upon the convening of a new parliament, in 1692, was chosen one of the representatives for Dublin. In 1695 he was elected for the University, whom he represented to the end of his life; and that learned body conferred on him the degree of L.L.D. He was likewise nominated a commissioner for the forfeited estates, with a salary of £500 a year; but declined it as an invidious office. In 1698 he published *The Case of Ireland* stated, in relation to its being bound by Acts of Parliament made in England. Among those with whom he maintained correspondence and friendship Mr. Locke was in a particular manner attached to him, as appears from their letters. In 1698, which was the last year of his life, he went to England, to visit that great man; and soon after his return to Ireland was seized with a fit of the stone, of which he died. He published several pieces in the *Philosophical Transactions*.

MOMBACA, a kingdom and large town on the eastern coast of Africa, to the south of Melinda. The town was visited by Vasco de Gama in 1497, who was well received, but afterwards an attempt was made to betray him, from which he escaped with some loss. In revenge for this the town was attacked and plundered by Almeda, in 1507. The natives afterwards recovered possession; but in 1529 is was retaken and occupied by the Portuguese till 1631, when the native king, having collected a large force, took it by storm, and put to death all the Portuguese. Since that time the natives have retained possession here, and have treated in the most hostile manner all Europeans. The consequence is, that it is rarely if ever visited. The country is represented as fertile in rice, millet, fruits, and cattle, and the climate as temperate and healthy. It is much frequented by Arab vessels. The town is situated on an island, and defended by a fort.

MOME, *n. s.* } Either Fr. *momom*, a game
MOMMERY. } played in silence; or Belgic
mom. A dull, stupid blockhead; a stock; a post: an unmeaning show.

Mome, malthorse, capon, coxcomb, idiot, patch!
Either get thee from the door, or sit down at the hatch. *Shakspeare.*

All was jollity,
Feasting and mirth, light wantonness and laughter,
Piping and playing, minstrelsy and masking.

Till life fled from us like an idle dream,
A shew of *momery* without a meaning. *Rowe.*

MO'MENT, *n. s.* } Fr. *moment*; Lat.
MO'MENTALLY, *adv.* } *momentum*, impulse,
MOMENTA'NEOUS *adj.* } or any thing causing
MO'MENTARY, } motion: hence the
MO'MENTARY, } smallest motion, and
MOMEN'TOUS. } hence, probably, that
small particle of time called a moment. Weight; active power; consequence; importance; a small indivisible portion of time: momentarily for a moment: momentaneous, momentary, and momentary, all mean lasting for, or done in a moment: momentous, weighty; important.

We do not find that our Saviour reproved them or error, for thinking the judgment of the scribes to be worth the objecting, for esteeming it to be of any *moment* or value in matters concerning God.

Hooker.

Small difficulties, when exceeding great good is sure to ensue; and, on the other side, *momentary* benefits, when the hurt which they draw after them is unspeakable, are not at all to be respected. *Id*

What towns of any *moment* but we have?

Shakspeare.

If I would go to hell for an eternal *moment*, or so, I could be knighted. *Id. Merry Wives.*

Momentary as sound,

Swift as a shadow, short as any dream.

Shakspeare.

Flame above is durable and consistent; but with us it is a stranger and *momentary*. *Bacon.*

Can these or such be any aid to us?
Look they as they were built to shake the world?
Or be a *moment* to our enterprise? *Ben Jonson.*

Scarce could the shady king

The horrid sum of his intentions tell,
But she, swift as the *momentary* wing
Of lightning, or the words he spoke, left hell.

Crashaw.

How doth the *momentariness* of this misery add to the misery! what a flower, a vapour, a smoke, a bubble, a shadow, a dream of a shadow our life is!

Bp. Hall.

Air but *momentally* remaining in our bodies, hath no proportionable space for its conversion, only of length enough to refrigerate the heart. *Browne.*

Touch with lightest *moment* of impulse

His free-will, to her own inclining left
In even scale. *Milton's Paradise Lost.*

The imaginary reasoning of brutes is not a distinct reasoning, but performed in a physical *moment*.

Hale.

But soft, my friend, arrest the present *moments*;
For be assured they all are arrant tell-tales;
And though their flight be silent, and their path trackless

As the winged couriers of the air,
They post to Heaven, and there record thy folly.

Cotton.

Swift as thought the flitting shade
Through air his *momentary* journey made.

Dryden.

Great Anne, weighing the events of war
Momentous, in her prudent heart thee chose.

Philips.

If any false step be made in the more *momentous* concerns of life, the whole scheme of ambitious designs is broken. *Addison.*

It would be a very weak thing to give up so *momentous* a point as this, only because it has been contested. *Waterl.*

MOMIERS: a Protestant sect of recent origin, in Geneva and some other parts of Switzerland, founded by Empeytaz, a student of theology and follower of the baroness von Krüdener (q. v.) about 1813. He held conventicles for the edification of those who were not satisfied with the ordinary religious exercises; and when he had completed his course of theology, the consistory of Geneva required of him a promise to discontinue these private meetings. This Empeytaz refused, and published a work on the divinity of Christ, in which he charged the clergy of Geneva with denying the divinity of Christ. The clergy of Geneva then required of all young candidates a promise to abstain from treating of the nature of Christ, original sin, grace and predestination, in the pulpit. This excited some discontents, and Malan, a clergyman of Geneva, at the head of the dissatisfied, and in connexion with Mr. Drummond, an Englishman, with Empeytaz and others, formed a new church, or Orthodox church, and attacked their adversaries in pamphlets, with charges of Arianism, Socinianism, deism, and atheism. The Genevese clergy kept silence; and, since 1823, Malan has erected a house of worship, and administers the Lord's supper. His doctrines are of a mystical character. The name *Momiers* was at first given to the sect by way of contempt (from *momerie*, mummery), but has since been commonly used as their appropriate designation.

MOMENTUM, in mechanics, signifies the same with impetus, or the quantity of motion in a moving body; which is always equal to the quantity of matter multiplied into the velocity. See **MECHANICS**.

MOMMERY, or **MUMMERY**, *n. s.* From Fr. *momerie*. An entertainment in which maskers play frolics. See **MOME**.

All was jollity,
Feasting and mirth, light wantonness and laughter,
Piping and playing, minstrelsy and masking,
Till life fled from us like an idle dream,
A shew of *mommery* without a meaning. *Rowe*.

MOMORDICA, male balsam apple, a genus of the syngenesia order, and monœcia class of plants; natural order thirty-fourth, cucurbitacæ: **MALE CAL.** quinquefid: **COR.** sexpartite; the filaments are three in number: **FEMALE CAL.** trifid: **COR.** quinquepartite; style trifid; fruit an apple parting asunder with a spring. The most remarkable species are:—

1. *M. balsamina*, the male balsam apple, is a native of Asia, and has a trailing stalk like the melon, with smooth leaves, cut into several segments, and spread open like a hand. The fruit is oval, ending in acute points, having several deep angles, with sharp tubercles placed on their edges. It changes to a red or purplish color when ripe, opening with an elasticity, and throwing out its seeds. This species is famous in Syria for curing wounds. The natives cut open the unripe fruit, and infuse it in sweet oil, which they expose to the sun for some days, until it become red, and then present it for use. Dropped on cotton, and applied to a fresh wound, the Syrians reckon this oil the best vulnerary next to balsam of Mecca. It often cures

large wounds in three days. The leaves and stems are used for arbors or bowers.

2. *M. elaterium*, wild or spurting cucumber, has a large fleshy root somewhat like briony, whence come forth every spring several thick, rough, trailing stalks, dividing into many branches, and extending every way two or three feet: these are garnished with thick, rough, almost heart-shaped leaves, of a gray color, standing upon long foot-stalks. The flowers come out from the wings of the stalks: these are male and female, growing at different places on the same plant like those of the common cucumber: but they are much less, of a pale yellow color, with a greenish bottom; the male flowers stand upon thick, short foot-stalks, but the female flowers sit upon the young fruit: which, after the flower is faded, grows into an oval form, an inch and a half long, swelling like a cucumber, of a gray color like the leaves, and covered over with short prickles. The elaterium of the shops is the fruit, or rather the inspissated fæcula, of the juice of the unripe fruit of this species. It is usually sent from Spain and the southern parts of France, where the plant is common, in small, flat, whitish lumps, or cakes, that are dry, and break easily between the fingers. It is of an acrid, nauseous, bitter taste, and has a strong offensive smell when newly made; but these, as well as its other properties, it loses after being kept for some time. It is a very violent purge and vomit, and is now seldom used. From the property which the plant has of throwing out its seeds, with a violent force, upon being touched, it has sometimes been called *Noli me tangere*.

MOMUS, in mythology, the god of railery, or the jester of the celestial assembly, who ridiculed both gods and men. Being chosen by Vulcan, Neptune, and Minerva, to give his judgment concerning their works, he blamed them all: Neptune for not making his bull with horns before his eyes, in order that he might give a surer blow; Minerva for building a house that could not be removed in case of bad neighbours; and Vulcan for making a man without a window in his breast that his treacheries might be seen. For his free reflections upon the gods Momus was driven from heaven. He is generally represented raising a mask from his face, and holding a small figure in his hand.

MONA, in ancient geography, an island in the sea, between Britain and Ireland, described by Cæsar as situated in the mid passage between both islands, and stretching out in length from south to north; called *Monaæda* by Ptolemy; *Monapia*, or *Monabia*, by Pliny: supposed to be the Isle of Man.

MONA, another island, between Britain and Ireland, mentioned by Tacitus, more to the south, and of greater breadth, than the above; situated on the coast of the Ordovices, and separated by a narrow strait, an ancient seat of the Druids, now Anglesey. See **ANGLESEY**.

MONA, and **MONITA**, i. e. the monkey and his cub, two West India Islands in the middle of the passage between Hispaniola and Porto Rico. The *Mona Isle* is seven miles from east to west, and nearly two wide, once in good cultivation. It is now abandoned to wild goats, and so seldom

approached, that a sailor has been known to have been six months on it before any passing vessel observed his signals.

MONACO, a principality of the Sardinian states, bounded by the county of Nice, the Genoa territory, and the sea. Its superficial extent is fifty-five square miles; sheltered on the north side by lofty mountains, and open on the south to the Mediterranean. Its climate is of a high temperature, and favorable to the growth of oranges, lemons, olives, &c. The pastures also are good, and the cattle numerous. Inhabitants about 6000. The towns are Monaco and Mentone, containing together about 3000 inhabitants. Monaco, until 1792, was governed by its own princes: in that year the French incorporated it with their republic, and retained possession of it until 1815, when it was placed under the king of Sardinia, reserving, however, the rent of the lands (about £5000 a year) to the prince.

MONACO, a small town, the capital of the above principality, is situated on a steep rock, projecting into the sea. Population 1200. It is seven miles west of Nice.

MONAD, *n. s.* } Gr. *μοναχ*. An indivisible thing.

Disunity is the natural property of matter, which of itself is nothing but an infinite congeries of physical monads. *More.*

MONAGHAN, a county in the province of Ulster, and kingdom of Ireland. It is situated on the north by Tyrone, on the east by Armagh, on the south by Cavan, and on the west by Fermanagh county. Monaghan comprises 288,500 statute acres, of which 72,855 are exempted from county cess. A loss, in this case, much to be regretted, many of the great landed proprietors being natives and residents of the sister kingdom. The baronies are Cremourne, Dartney, Farney, Monaghan, and Trough, divided into but twenty parishes, averaging about 14,000 acres to each. The population amounts to 195,000; the number of dwellings to 35,000; and the number of children receiving gratuitous education exceeds 7000. The chief towns are Monaghan, the place of assizes, having a jail, a barrack, and an endowed classical school, Ballybay, Clones, Newbliss, Castle-Blaney, Carrickmacross, Smithborough, Emyvale, and Glasslough. The surface of Monaghan is hilly, but not mountainous, save on the north-west angle, where the Sliebh-Raughley range intrudes. There are many small lakes scattered amongst the numerous little eminences that encumber the face of this county, but no river of magnitude except the Blackwater.

Monaghan is not deficient in mineral treasures. Rich lead ore and antimony have been discovered in the elevated lands stretching from Ballybay to Clontibrid; and coal of a good quality at Carrickmacross. The staple of Monaghan is linen cloth, most of the county being devoted to its manufacture: no fewer than fourteen bleach mills exist on one small stream, issuing from an insignificant pool in the high lands. The roads of this county are in general excellent: but one claims particular notice, that is, the great road from Dublin to Derry, which, in passing through this county, has been most skillfully constructed.

The funds for this purpose were advanced by government, and are to be repaid by instalments from the grand jury. The parishes of Monaghan, but few in number, are provided with churches, glebe houses, and lands upon a very liberal scale, and the tithes of most of them are now arranged under the commutation act of Mr Goulburne.

MONAGHAN, the chief town in the above county, is eighty-four miles distant from Dublin on the new line of road. The streets are wide, and well laid out; the jail is an architectural and well designed edifice; and the diocesan school is an imposing object. This town would undoubtedly derive much benefit from the execution of the proposed canal that is to connect Lough Erne with Lough Neagh.

MON'ARCH, *n. s.* } Fr. *monarch*; Gr. *μ*-
MON'ARCHIAL, *adj.* } *ναρχος*. A supreme gov-
MON'ARCHICAL, } ernor; a king: to mo-
MON'ARCHISE, *v. n.* } *monarchise* is to assume
MON'ARCHY, *n. s.* } kingly state: monarchy,
the system of monarchical government, or the
state governed.

Your brother kings and *monarchs* of the earth
Do all expect that you should rouse yourself.

Shakspeare.

Come, thou *monarch* of the vine,

Plumpy Bacchus, with pink eyne,
In thy vats our cares be drowned. *Id.*

Allowing him a breath, a little scene
To *monarchise*, be feared, and kill with looks. *Id.*

I past

Unto the kingdom of perpetual night.

The first that there did greet my stranger soul,
Was my great father-in-law, renowned Warwick,
Who cried aloud, What scourge for perjury
Can this dark *monarchy* afford false Clarence? *Id.*

That storks will only live in free states is a pretty
conceit to advance the opinion of popular policies,
and from antipathies in nature to disparage *monarch-*
ical government. *Browne.*

Satan, whom now transcendent glory raised
Above his fellows, with *monarchal* pride,
Conscious of highest worth, unmoved thus spake.

Milton.

The father of a family or nation, that uses his ser-
vants like children, and advises with them in what
concerns the commonweal, and thereby is willingly
obeyed by them, is what the schools mean by a
monarch. *Temple.*

The *monarch* oak, the patriarch of the trees
Three centuries he grows, and three he stays
Supreme in state, and in three more decays.

Dryden.

With ease distinguished, is the regal race,

One *monarch* wears an open, honest face;
Shaped to his size, and godlike to behold,
His royal body shines with specks of gold. *Id.*

Our author provides for the descending and con-
veyance down of Adam's *monarchical* power to pos-
terity, by the inheritance of his heir, succeeding to
his father's authority. *Locke.*

While the *monarchy* flourished, these wanted not a
protector. *Atterbury's Sermons.*

Returned with dire remorseless sway,
The *monarch* savage rends the trembling prey.

Pope.

It is certain, that ours is a mixed government, and
the perfection of our constitution consists in this,
that the *monarchical*, aristocratical, and democratical
forms of government are mixed and interwoven in
ours, so as to give us all the advantages of each,

without subjecting us to the dangers and inconveniences of either.

Sir R. Walpole.

The decretals resolve all into a *monarchical* power at Rome.

Baker's Reflections on Learning.

A MONARCHY is a state governed by an individual head: or where the supreme power is lodged in the hands of a single person. Of the three forms of government, viz. democracy, aristocracy, and monarchy, the last is the most powerful, all the sinews of government being knit together, and united in the hand of the prince; but then there is imminent danger of his employing that power to oppressive purposes. As a democracy is the best calculated to direct the end of a law, and an aristocracy to invent the means by which that end shall be obtained, a monarchy is most fit for carrying these means into execution.

Of monarchies some are absolute and despotic, where the will of the monarch is uncontrollable; others are limited, where the prince's authority is restrained by laws, and part of the supreme power lodged in other hands, as in Britain. Some monarchies again are hereditary, where the succession devolves immediately from father to son; and others are elective, where, on the death of the monarch, his successor is appointed by election, as in Poland, before its dismemberment. The most ancient monarchy was that of the Assyrians, which was founded soon after the deluge. Historians usually reckon four grand or almost universal monarchies or empires, the ASSYRIAN, PERSIAN, GRECIAN, and ROMAN, of which we treat in their due order, or alphabetical place. The strong resemblance of these four universal empires to the prophetic description of them given by Daniel, under the similitude of four great beasts (an emphatical scriptural expression for the various tyrannies that have prevailed among mankind), and this vision being seen too by the prophet at a time when only the first of them had begun to exercise its tyranny over the world, must satisfy every man of the divine inspiration of that prophet. See Daniel ii., vii., and viii.; *Prideaux's Connexion*; Selden, *De Quatuor Monarchiis*, &c.

MONARDA, Indian horehound, Oswego tea, or American field basil, in botany, a genus of the monogynia order, and diandria class of plants; natural order forty-second, verticillate: cor. unequal, with the upper lip linear, involving the filaments: SEEDS four. The most remarkable species is:—

M. zeylanica, a native of the East Indies. It rises with an herbaceous four-cornered, hoary stalk, and bears leaves that are entire, nearly heart-shaped, woolly, deep-notched on the edges, and having foot-stalks. The flowers, which are purplish and fragrant, surround the stalk in whorls, each whorl containing about fourteen flowers; and are succeeded by four small kidney-shaped shining seeds, lodged in the bottom of the permanent flower cup. The Indians superstitiously believe that a fumigation of this plant is effectual for driving away the evil spirit; and from this imaginary property its name, in the Ceylonese language, is derived. Grimmius relates, in his *Laboratorium Ceylonicum*, that for taste and smell this species of horehound

stands remarkably distinguished. A water and subtile oil are obtained from it, both of which are greatly commended in obstructions of the matrix. A syrup is likewise prepared from it, which is useful in these disorders, as well as in diseases of the stomach.

MONARDES (Nicholas), an excellent Spanish physician of Seville, who lived in the sixteenth century, and deservedly acquired great reputation by his skill and writings. His Spanish works were translated into Latin by Clusius, into Italian by Annibal Brigantus, and those upon American drugs have appeared in English. He died about 1578.

MONASTEREVAN, a post town of Ireland, in Kildare, Leinster, thirty-six miles from Dublin. This town has its name from a magnificent monastery which was founded here, in which St. Evan, in the beginning of the seventh century, placed a number of monks from St. Munster, and which was a sanctuary. St. Evan's festival is held on the 22d December. At the suppression of monasteries this abbey was granted to George lord Audley, who assigned it to Adam Loftus, viscount Ely. It afterwards came into the family of Moor, earls of Drogheda, and has been beautifully repaired by lord Drogheda, yet still preserving the venerable appearance of an abbey. The grand canal is carried up to this town from Dublin, since which it has been much enlarged with new buildings. It is a market town, and holds four fairs.

MONASTERY, *n. s.* } Fr. *monastere*; Lat. }
 MONASTIC, *adj.* } *monasterium*. A re- }
 MONASTICALLY, *adv.* } ligious house or con- }
 vent: monastic, of or pertaining to such an establishment, or to the habits of a monk.

I drave my suitor to forswear the full stream of the world, and to live in a nook merely *monastick*.

Shakspeare. As You Like It.

When young, you led a life *monastick*, }
 And wore a vest ecclesiastick; }
 Now in your age you grow fantastick. } *Denham.* }
 The silicious and hairy vests of the strictest orders of friars derive the institution of their *monastick* life from the example of John and Elias.

Broune's Vulgar Errors.

Then courts of kings were held in high renown; }
 There, virgins honourable vows received, }
 But chaste as maids in *monasteries* lived. } *Dryden.* }

In a *monastery* your devotions cannot carry you so far toward the next world, as to make this lose the sight of you.

Pope.

I have a dozen years more to answer for, all *monastically* passed in this country of liberty and delight.

Swift.

MONASTERY, is only properly applied to the houses of monks, mendicant friars, and nuns: abbeys, priories, &c., are more properly called religious houses. The houses belonging to the several religious orders in England and Wales were cathedrals, colleges, abbeys, priories, preceptories, commanderies, hospitals, friaries, hermitages, chantries, and free chapels. These were under the direction and management of various officers. The dissolution of houses of this kind began so early as 1312, when the templars were suppressed; and in 1323 their lands, churches, advowsons, and liberties, in England, were given by 17 Ed. II. stat. 3 to the prior and brethren of the hospital

of St. John at Jerusalem. In 1390, 1437, 1441, 1459, 1497, 1505, 1508, and 1515, several other houses were dissolved, and their revenues settled on different colleges in Oxford and Cambridge. Soon after the last period Cardinal Wolsey, by license of the king and pope, obtained a dissolution of above thirty religious houses for the founding and endowing his colleges at Oxford and Ipswich. About the same time a bull was granted by the pope to cardinal Wolsey to suppress monasteries where there were not above six monks, to the value of 8000 ducats a year, for endowing Windsor and King's College, Cambridge; and two other bulls were granted to cardinals Wolsey and Campeius, where there were less than twelve monks, and to annex them to the greater monasteries; and another bull to the same cardinals to enquire about abbeys to be suppressed in order to be made cathedrals. Although nothing appears to have been done, in consequence of these bulls, the motive which induced Wolsey and many others to suppress these houses was the desire of promoting learning; and archbishop Cranmer engaged in it with a view of carrying on the Reformation. There were other causes that concurred to bring on their ruin: many of the religious were loose and vicious; the monks were generally thought to be in their hearts attached to the pope's supremacy; their revenues were not employed according to the intent of the donors; many cheats in images, feigned miracles, and counterfeit relics, had been discovered; the observant friars had opposed the king's divorce from queen Catharine; and these circumstances operated, in concurrence with the king's want of a supply and the people's desire to save their money, to forward a motion in parliament, that, in order to support the king's state, and supply his wants, all the religious houses might be conferred upon the crown which were not able to spend above £200 a year; and an act was passed for that purpose 27 Hen. VIII. c. 28. By this act about 380 houses were dissolved, and a revenue of £30,000 or £32,000 a year came to the crown; besides about £100,000 in plate and jewels. The suppression of these houses occasioned discontent, and at length an open rebellion: when this was appeased, the king resolved to suppress the rest of the monasteries, and appointed a new visitation; which caused the greater abbeys to be surrendered; and it was enacted by 31 Hen. VIII. c. 13 that all monasteries, &c., which had been surrendered since the 4th of February in the twenty-seventh year of his reign, and which hereafter shall be surrendered, shall be vested in the king. The knights of St. John of Jerusalem were also suppressed by the 32 Hen. VIII. c. 24. The suppression of these greater houses by these two acts produced a revenue to the king of above £100,000 a year, besides a large sum in plate and jewels. The last act of dissolution in this king's reign was the act of 37 Hen. VIII. c. 4 for dissolving colleges, free chapels, chantries, &c., which act was farther enforced by 1 Ed. VI. c. 14. By this act were suppressed ninety colleges, 110 hospitals, and 2374 chantries and free chapels. The number of houses and places suppressed from first to last, so far

as any calculations appear to have been made has been estimated at 3182; besides many others of inferior rank, of which no account was kept. The total annual revenue of these is estimated at no less than £140,784 19s. 3½d, all of which, besides a vast quantity of silver plate, came into the king's hands. The total number of persons contained in these houses is estimated at 50,000. As there were pensions paid to almost all those of the greater monasteries, the king did not immediately come into the full enjoyment of their whole revenues: however, by means of what he did receive, he founded six new bishoprics, viz. those of Westminster (which was changed by queen Elizabeth into a deanery, with twelve prebends and a school), Peterborough, Chester, Gloucester, Bristol, and Oxford. And in eight other sees he founded deaneries and chapters, by converting the priors and monks into deans and prebendaries, viz. Canterbury, Winchester, Durham, Worcester, Rochester, Norwich, Ely, and Carlisle. He founded also the colleges of Christ-church in Oxford, and Trinity in Cambridge, and finished King's College there. He likewise founded professorships of divinity, law, physic, and of the Hebrew and Greek tongues, in both the said universities. He gave the house of Gray-friars and St. Bartholomew's hospital to the city of London, and a perpetual pension to the poor knights of Windsor, and laid out great sums in building and fortifying many ports in the channel. It is observable, upon the whole, that the dissolution of these houses was an act, not of the church, but of the state; in the period preceding the Reformation, by a king and parliament of the Roman Catholic communion, in all points except the king's supremacy; and an act to which the pope himself, by his bulls and licenses, had led the way. See **MONK**.

MONASTIR, Toli, or Bistolia, a considerable town of Greece, in Macedon, situated on the slope of a hill; watered by the Vistriza, or Hebrus. It is inhabited by the descendants of Bulgarians; and, though nearly 100 miles from the sea, may, when compared with most other towns in this country, be called rich and commercial. Population 15,000. Ali Pacha took forcible possession of this town, carrying away the most valuable property of the inhabitants; but it is still a flourishing place. It is ninety-five miles W. N. W. of Salonica.

MONAVAR, a town of Spain, in Valencia, twenty miles west of Alicante. It contains 8000 inhabitants, who manufacture some linen.

MONBODDO (James Burnet), lord, an eminent Scottish judge, descended of an ancient family in Kincardineshire. He was born in 1714, and educated at one of the Scotch universities, at a period when an enthusiastic admiration of the classical literature of Greece and Rome was very predominant. Having gone through the usual course of studies preparatory to the profession of a lawyer with uncommon diligence, he was admitted a member of the faculty of advocates in 1737; and, in 1767, was appointed one of the senators of the college of justice; an office which he discharged with assiduity, integrity, and ability. He married Miss Farquarson, by whom he had one son and two daughters, all

of whom died before him, except the eldest, who was married to Kirkpatrick Williamson, esq. He had the offer of a seat in the court of justice, but refused it, as its additional duties would have detached him too much from his favorite literary studies. The course of these, and his particular habits of thinking, led him to entertain a most enthusiastic veneration for the wisdom and learning of the ancients, and a proportional degree of contempt for those of the moderns. The first evidence he gave to the public of this admiration of ancient authors was in his work *Of the Origin and Progress of Language*; the first volume of which was published at Edinburgh in 4to. 1772. This and the subsequent volumes were perused by critics with sentiments of mingled respect, indignation, and ridicule. Together with the philosophical history of language, his plan included that of civilisation and science; upon all of which he advanced opinions equally singular and whimsical. Those who were partial to modern literature, or were strangers to the deeper mysteries of Greek erudition, condemned his lordship's work with the most severe censures. The Scottish literati, almost to a man, declared it to be unworthy of perusal, unless as a piece of amusement from its ridiculous absurdity. In England, however, its reception was somewhat more favorable;

 E'en then did Albion's heedless sons submit,
And Scottish taste decided English wit.

In the late Mr. Harris of Malmesbury lord Monboddo found an admirer and correspondent, who was equally well acquainted with Grecian learning and philosophy, and who had cultivated these branches of science with equal ardor as himself. During the vacations of the court of session lord Monboddo retired every spring and autumn to his seat of Monboddo, where he usually lived in a style of the most primitive simplicity, dressed in the habit of a country farmer, in coarse cloth of Scotch manufacture. Among his tenants he lived familiarly like the kind father of a large family. His patrimonial estate did not afford above £300 a year; yet he never raised their rents, but reckoned the chief improvement of an estate to consist in the increase of the number and happiness of its inhabitants. It was in this patriarchal retreat in the Mearns that he had the pleasure of a visit from the celebrated Dr. Johnson, and his friend Mr. Boswell. To vindicate the honor of the ancients, and the principles of the Grecian philosophy, more fully than he had done in his former work, lord Monboddo published another 4to. volume, entitled *Ancient Metaphysics*, which was much more favorably received than the former. Naturally endued with a good constitution, which was strengthened by air, exercise, and temperance, he prolonged his life till the eighty-fifth year; and died in Edinburgh on Sunday the 26th May, 1799.

MONCHABOO, a city of the Birman empire, and during a short period its capital, is surrounded by a wall of brick and mud, about twenty feet high by twelve feet thick, and surrounded by a ditch. It is a regular square, of almost 1000

paces on each side. It derives its fame from being the birth place of the emperor Alompra, founder of the reigning dynasty, and is situated fifty miles north of Ummerapooa, and twelve miles north of the Irrawuddy River. Inhabitants 4000. Long 96° 20' E., lat. 22° 46' N.

MONCHIQUE, a town of Portugal, in Algarva, at the foot of a ridge of mountains. Population 4800. Fifteen miles west of Silves.

MONCRIF (Francis Augustin Paradis, De), secretary to count Clermont, one of the forty of the French academy, and a member of the academies of Nanci and Berlin, was born in Paris in 1687, and died there November 12th 1770, aged eighty-three. His principal works are, 1. *Essai sur la Nécessité et sur les moyens de plaire*, in 12mo. 2. *Les Ames Rivaies*, a romance. 3. *The Abderites*, a comedy; 4. *Poesies Diverses*, and some dissertations, published at Paris 1743, in 12mo. He also cultivated lyric poetry, and wrote, 5. *L'Empire de l'Amour*, a ballad; 6. *Trophée*; 7. *Ames reunis*, a ballad; and 8. *Erosine*, a heroic pastoral. 9. *L' Histoire des Chats*. His works were collected, in 1761, in 4 vols. 12mo.

MONDARDIER, a town of France in the department of the Gard, to the south of Vigan. It consists, in fact, of three adjacent villages. Population 2500.

MONDAY is so called as being anciently sacred to the Moon, or to Mona, the Diana of the Saxons.

MONDEGO, a river of Portugal, in Beira, which rises in the Sierra de Estrella, flowing westward, and falls into the Atlantic at Buarcos. It is navigable to a considerable distance from mouth, and its banks were the scene of important military movements of the British and French in September 1810, and in March 1811.

MONDEGO, or Embotetieu, a river of Paraguay, in South America, which enters the great river Paraguay, or La Plata, in lat. 20° 30' S.

MONDOVI, a town and province of Piedmont, situated on the river Ellero. The town at some distance is picturesque in its appearance but loses much of its interest by contrast with the surrounding Alps. It is divided into the Town Proper, or Piazza, situated on a mountain, at an elevation of 1700 feet above the level of the sea, surrounded with feeble walls, and the three suburbs, Carassone, Bred, and Piano della Valle. The distance between the upper and lower part of the town is considerable. Beside a small citadel, Mondovi Proper contains a great number of churches and religious houses, and its inhabitants are chiefly clergy and country gentry. The suburbs, on the contrary, are entirely given to trade. Here are manufactures of woollen and muslin, tanneries and iron forges; but the chief branch of industry is the spinning of silk. The total population is about 20,000. It is the see of a bishop, and of several seminaries. Mondovi is comparatively modern, having been founded in the year 1232. On the 22d of April, 1796, Buonaparte obtained here a victory over the Piedmontese, which led the court of Turin to separate from Austria. In 1799 the Piedmontese peasants assembled here to the number of 40,000, to intercept the retreat of the French, who on a slight

alarm of their attempting to assassinate some officers began an indiscriminate butchery of the people, and pillaged the town. Here Beccaria first drew breath. Fifteen miles E. N. E. of Coni, and forty-five S. S. E. of Turin.

MONDRAGON, a town of Spain, in Guipuzcoa, on the river Deva, thirty miles S. S. W. of Sebastian. Three miles off is a mine of excellent iron and native steel, from which were made the famous sword-blades of Toledo and Salamanca, as well as those so long in repute as blades, and called Ferrara, from the name of the celebrated Andrew Ferrara.

MONETARIUS, or MONEYER, a name which antiquaries and medalists give to those who struck the ancient coins or monies. Many of the old Roman coins have the name of the monetarius, either at length, or at least his initial letters. See NUMISMATOGRAPHY.

MONETARY ART. The object of coinage is commercial convenience; in the accomplishment of which the protection of the ignorant and unsuspecting from unfair and fraudulent imitations is the chief, if not the only, difficulty. Direct barter was the first mode of commerce; then various imperfect media received by general consent at a determinate value; and which were often the necessities of life (see our article COINS); then the precious metals, where they were known, unwrought, as Mr. Turner contends was the case with regard to gold, as a medium of commerce, with our Anglo-Saxon ancestors; then a piece of metal stamped or coined by public authority. It is to be remarked, however, that in commercial affairs considered on a large scale, or as embracing the intercourse of all civilised nations, the last contrivance is not to be regarded as that real progressive step, or improvement, that it truly is with respect to the internal commerce of a nation. That is, the chief object of a good coinage is to mark the genuineness, the ascertained weight and purity, of the money coined; in other words, to bring it back in the public estimation to the penultimate step of commercial media to which we have adverted. What is called the standard of fineness in all the civilised countries of the world is well known to the bullion merchants and other large traders interested in the transactions proceeding between them; and, while the known portion of alloy is used to make the precious metal employed more serviceable as a coin, that very service is in fact only a method of recording the quantity of bullion used; so that the metal, considered as unalloyed and unwrought, is obviously the standard of value. This simple view of the *limits* of the use of coinage we apprehend to be absolutely necessary for the rectification of some serious errors respecting it, which have their advocates in modern times. It is, in fact, as a medium of domestic commerce that coined money is chiefly beneficial, or of any comparative importance to mankind.

We are happy to find so able a judge as Mr. Ruding confirming this view of the subject in the conclusion of his valuable *Annals of the Coinage of Great Britain*. He adds a further consideration in confirmation of the necessity of limiting our ideas of the application of this art,

which cannot be better expressed than in his own words. 'The *theory* of coinage,' he says, 'must be simplified, by casting out of it the consideration of the manner in which our money will be received by neighbouring nations. For they will take it only as bullion, and if the balance of trade be against us, and must be made good by gold and silver, it is most expedient that it should be done by the plain metal, which will cost nothing in the coinage.'

The king of England, as the head of the executive government, has always claimed the prerogative both of coining money, and of regulating the rate at which foreign coin is to be received. Since the reign of Henry VII. our kings have not often exercised this prerogative without consulting parliament, though it appears doubtful whether they have not a legal right so to do: and a royal proclamation is always the instrument whereby (Hale's *Pleas of the Crown*, vol. ii. p. 197),

Foreign coin is legitimated and made current:

Base coin, or coin of a standard below sterling is legitimated:

To 'inhanse' any coin already current to a higher denomination: and

To deery any coin that is current in usage or payment.

Blackstone quotes a dictum of Sir Edward Coke, according to which 'the money of England must be either gold or silver;' for at the period when the latter wrote, copper had never been issued by our monarchs. This was first the case in the copper coinage of 1672 under Charles II.

The Anglo-Saxons coined silver and brass; but, the Norman monarchs rejecting the latter, silver became for a long period the sole material of coinage; indeed until gold was introduced into the mint by Henry III. No half-pennies or farthings are known of any of the Anglo-Norman monarchs before Edward I., but silver pieces of this value continued to be coined at intervals from this period until the reign of Edward VI. To supply their place, when their small size caused them to be discontinued, James I. directed farthing tokens of brass and copper to be struck, but these were of such inferior value as soon to fall into utter contempt and disuse. The commencement of the regular copper coinage must be dated in the year above mentioned, viz. 1672.

Tin was also coined by Charles II. in 1684.

His ill-fated successor James II. endeavoured to give currency to metals still less valuable, i. e. gun-metal and pewter; but the projector of a coinage of this description was ruined by the first adventure, and the attempt was not repeated.

The precious metals have been then for ages the chief *materials* of coinage. Of an intrinsic worth, compact, divisible, and durable, they seem by the common consent of mankind to be best calculated for the ordinary purposes of a currency; they possess, however, other properties which become a draw-back upon them. Their value as bullion is perpetually fluctuating; it often varies sufficiently to render the temptation to melt them down irresistible; and it al-

ways affords a considerable inducement to the issuer of counterfeits and the clipper of coin. The first of these disadvantages is perhaps the greatest, as before its mighty influence the greatest part both of our gold and silver coinage is regularly swept away. It results, however, from the intrinsic and inherent value of the materials in question; and as it has been truly observed, 'can only be palliated but not absolutely removed.'

There is only one instance in history of a nation endeavouring to meet this disadvantage of the intrinsic value of a coinage by rendering it useless for other purposes; that is, the well known Spartan one, in which Lycurgus ordered the iron coins to be quenched in vinegar. But this was a failure: it utterly precluded in their case intercourse with the neighbouring states; and the Spartans had no other medium of exchange. This by no means demonstrates, however, the fallacy of the principle on which that great lawgiver acted; especially with relation to internal commerce.

Our article COINS will be found to contain ample tables of all the existing gold and silver money of the commercial world, together with rules for standarding gold and silver. It is admitted throughout the scientific world that we have carried the art of coinage to its highest perfection in this country. The crowns and half-crowns of the Protectorate, for instance, will advantageously sustain comparison with any existing French coins. This has especially been the case since the year 1815, and under the new constitution of the MINT. This we have also exhibited in the article of that name: we therefore propose in this paper to advert briefly to the supply of bullion to that important establishment, and to give as detailed an account of the machinery and methods of the coinage as our limits will admit.

SECT I.—HISTORICAL VIEW OF THE SUPPLY OF BULLION TO THE MINT.

Strabo and Tacitus enumerate gold and silver as among the products of this island; and some writers have conjectured that Roman mints were worked here with the supplies they afforded. This seems to be, however, altogether doubtful. Silver is found only impregnating our lead ores; but the working of mines of either metal has been long unknown to our history: the common law may very harmlessly, therefore, give all mines of these metals, as we believe it does, to the king. But so late as 1 Wil. & Mary some disputes it appears arose which rendered a declaratory statute on this subject necessary. It was at this period therefore enacted that no mines of base metal should be considered as royal, notwithstanding gold or silver might be extracted from them in any quantities; but that the king, or persons claiming royal mines under his authority, should have the ore (other than tin ore in the counties of Devon or Cornwall), paying for the same a price stated in the latter of those acts.—*Blackstone's Commentaries*, vol. I. p. 294.

The earliest instance which Mr. Ruding finds of the claim to a mine royal being enforced occurs in the forty-seventh year of Henry III.,

at which time a writ was directed to the sheriff of Devonshire, in which it was stated that the king had been given to understand that there were within his county aurifodinae et cuprifodinae, that is, mines containing gold together with copper, and he was commanded not to permit any one to occupy the same until the king should have provided that which the law required to be done. His successor Edward I., we are told, received great help towards the maintenance of his wars, and other charges, from the silver mines which, in his days, were found in Devonshire. In the accounts of William de Wymondham, warden of the mint, it appears that, between the 12th of August and the 31st of October, in the twenty-second year of his reign, there was tried and fined out, at Martinstowe in that county, by times, so much of fine silver as amounted to 370 lbs. weight. In the next year £521 10s. were fined at the same place, and brought to London.

In the year 1296, 337 miners were brought hither from the Wapentake of the Peak in Derbyshire, who fined and cast into wedges, in the course of that year, £704 3s. 1d. From September 30th to November 6th in the same year there were received into the mint, from the king's mines, £709 10s. 4½d.—Mint Accounts in the Exchequer. In the next year 348 miners were brought from the same place, and to them were added twenty-five from Wales, besides others of the county of Devon and other places. William de Aulton, clerk, keeper of the king's mines in Devonshire and Cornwall, was accountant of the issues and profits of the king's mines there from March 4th 1298 to April 18th 1299, and yielded up his account both of silver and lead; which seems distinctly to prove that the silver was the produce of lead mines rich in that metal.

In the early part of this reign, according to Mr. Ruding, the mines in Ireland which afforded silver were supposed to be sufficiently rich to merit the attention of government. The king, therefore, in a writ directed to Robert de Offerd, justiciary of Ireland, and the bishop of Waterford, his treasurer there, stated that he was certainly informed that mines of silver were found in that country, of which considerable profit might be made, and commanded those persons to cause such mines to be opened and worked, in any way that to their judgment should seem expedient. The mint, however, did not depend solely upon these mines for a supply of metal. From an account of the same William de Wymondham, it appears that foreign bullion was purchased to a considerable amount.

During the reign of Edward II. silver was still brought to the mint from the royal mines, and that which was purchased was distinguished by the names of argentum cismarinum, transmarrinum, and billon. These terms continued to be used in the reign of Edward III., after which we do not meet with them. In his twelfth year he granted, and in his fifteenth year confirmed, by statute, free liberty to all persons to dig within their own soil for mines of gold and silver, and for hid treasure, under the inspection of clerks to be appointed for that purpose, on condition

that all the silver so found should be carried to the mint to be coined there, at their cost, and that one-third of the money so struck should remain to the king, and two-thirds to the owner of the soil: and that all the gold should be brought to the exchequer, at their expense, one moiety thereof to be retained for the king's use, and the other moiety to be retained to the said owner of the soil. But if they should neglect to dig for the said mines, &c., then the king and his heirs to have power to do it, without hindrance from any one.

In the eighteenth year of Edward III. is found the first entry of gold, brought into the mint for the purposes of coinage, which remains upon record. It consisted either of foreign coins, or of bullion purchased for the mint, or sent hither by merchants to be coined; but the author of the annals of the coinage has not met with any instance where that metal is entered as the produce of the royal mines.

In the reign of James I. Sir Hugh Middleton discovered those lead mines of Cardiganshire, from which silver has ever since been extracted with some success.

It was discovered at an early period that working mines on the king's account was unprofitable; such as were claimed were therefore, so far back as the fourteenth century, leased out to different persons, reserving certain portions of the produce for the purposes of the mint; sometimes they were obliged to bring the whole thither. Mr. Ruding gives a table too long to extract of these curious transactions.

'In order to facilitate the working of these mines the lessees were sometimes authorised to take a certain number of workmen, wheresoever they should find them, within the county wherein the mines were situated. They had power also over their laborers, &c., to exercise justice in all pleas, except those of land, life, or limb; and if any offended so that they ought to be imprisoned, then the patentees or lessees were authorised to arrest and lodge them in the next jail, there to be detained until they should be released by them. As the claim of the crown respecting mines royal was but ill defined, an attempt was made in the fifteenth year of Charles II. to pass a statute for the purpose of ascertaining it more clearly; but after the bill was read a second time, and the amendments of the committee to which it was referred were reported, it seems to have been dropped, as no farther proceedings are to be found; and the claim remained in its unsettled state, until it was finally determined by the 1st and 5th of William and Mary, which have been already recited.

'But the supply of the mint,' adds this writer, 'with bullion was in early times considered to be a circumstance of too much importance to be trusted to natural means alone; and the aid of *alchemy* was therefore resorted to for that purpose. Thus the gold, of which the nobles of Edward III. were formed, is said to have been produced by Raymond Lully. Ashmole, in his Notes upon Norton's Ordinal, and Hermes Bird, has given a very circumstantial account of the bringing of Lully into England by Cremer, abbot of Westminster; of his agreeing

to make the king rich by his art, in consequence of that monarch's promise to enter into a war against the Turks; of his refusal to work any longer, when he found that Edward would not keep that promise; and of his being clapt up in the tower in consequence. The gold, he says, is affirmed (by an unwritten verity) to have been made by Raymond Lully, in the Tower of London; and, besides the tradition, the inscription is some proof; for, upon the reverse is a cross fleury, with Lioneux, inscribed, 'Jesus autem transiens per medium eorum ibat;' that is 'as Jesus passed invisible, and in most secret manner, by the midst of the Pharisees, so that gold was made by invisible and secret art amidst the ignorant.'

'That Edward was, in some degree, a believer in the powers of alchymy, and therefore not improbably the dupe of Lully, will, I think, appear from the following record. The Patent Roll of his third year states, that the king had been given to understand that John le Rous and Master William de Dalby could make silver by art of alchemony; that they had heretofore made it, and still did make it; and that by such making of that metal they could greatly profit the realm: he therefore commanded Thomas Cary to find them out, and to bring them before the king, with all the instruments, &c., belonging to the said art. If they would come willingly, they were to be brought safely and honorably; but, if not, they were to be seized, and brought before the king wherever he might be. All sheriffs, &c., were commanded to assist the said Thomas Carey. This belief in the creation, or, at least, transmutation of metals, was in the reign of Henry IV. so firmly established, that we find in his fifth year a statute which solemnly 'ordained and established that none from henceforth shall use to multiply gold or silver, nor use the craft of multiplication; and if any the same do, that he incur the pain of felony in this case.

'In consequence of the restraint which this statute imposed upon the operations of alchymy, John Cobbe, in the twenty-second year of Henry VI. presented a petition to the king, in which he stated, that he was desirous of operating upon certain materials, by art philosophical, viz. to transubstantiate the inferior metals, by the said art, into perfect gold and silver, so as to endure every trial; but that certain persons had suspected this to be done by art unlawful, and therefore had power to hinder and disturb him in giving proof of it. His majesty, having considered the premises, and being willing to see the conclusion of the said operation, granted, of his special grace, license to the said John to practise the said art in future, without molestation from any of his officers; provided always that it was not contrary to law. Soon after this, however, his majesty's curiosity became too impatient to endure the restraint of statutes, and he granted licenses of the same kind to various persons to carry on their operations, notwithstanding any statute, act, ordinance, or provision to the contrary.

In his thirty-fifth year he appointed, by letters patent, commissioners to enquire into the truth of this art, by the professors of which he had

been promised wealth sufficient to pay all his debts in gold and silver, to the great advantage of the kingdom. The commissioners were not selected with any particular attention to their qualifications for such a scrutiny; for they consisted of Augustine and preaching friars, of the queen's physician, the master of St. Laurence Pontnyr college, an alderman of London, a fishmonger, two grocers, and two mercers. Their report does not appear; but, without doubt, it was favorable to the art, as another license to practise it is found in his thirty-ninth year. This differs from those formerly granted, in being for the term of two years only, whilst the others were unlimited. Notwithstanding the disappointments which must have been perpetually experienced from the professions of those alchemists, it is certain that a reliance on the powers of their art continued as late as the seventeenth year of Edward IV.

Notwithstanding the importance of the subject the mint accounts seem to have been strangely neglected, even in comparatively modern times. Our annalists could only find data in the exchequer extending from the reign of Henry III. to the eleventh of Henry VIII. respecting the supply of bullion. Latterly one great and growing corporation, the bank of England, has become the sole customer of the mint: in return for the benefit derived from its charter that establishment is charged with the duty of 'providing, except during the suspension of payments in cash, all the gold and silver used in the coinage of money.'

SECT. II.—OF THE METHODS AND MACHINERY OF THE MINT COINAGE.

The bullion brought into the mint has for a long period been regularly assayed, and reduced to standard an account of which is given (see our article MINT), to the parties bringing it in; and then formed into money.

The first, and long-continued, mode of coinage was by the hammer; the blank piece of metal being placed by hand between two dies, or steel punches, containing the design of the coin, and the upper one being struck with a hammer. This operation was always imperfect, from the uncertainty of placing the dies exactly over each other; and also from the difficulty of striking a blow with such force as to make all parts of the impression equal. Hammer money, however, continued to be current until the reign of William III., when it was found in a most wretched condition from clipping and other mutilations, although the plan of coining, by the screw or press, had been introduced from France as early as 1562. But the press did not continue in use more than ten years, as being considered too expensive: there was a prejudice also against it as a foreign invention. In 1662 the use of the hammer was, however, finally relinquished: the milling upon the edges of coins was introduced about this period, and great confidence was placed in this new device, as being supposed to secure the coin both from clipping and wearing. But it was quickly discovered that the new money, both of gold and silver, could be deteriorated by a process termed sweating, or by

abstracting a portion from the whole surface by an acid, which left few or no traces of its operation. The coins were also clipped and filed as before and a new milling impressed upon it, notwithstanding every effort of the mint to keep the process of milling a secret. We believe the officers concerned in this process are still sworn not to disclose it.

The fly coining-press, or mill, is an invention generally ascribed to Antonie Brucher, the French king's engraver in 1553. After about thirty years use of it, in the royal mint of Paris, it was abandoned for the same alleged reason of expense that queen Elizabeth resigned it for; and remained in disuse until early in the following century, when Briot, a French engraver, induced the English government again to have recourse to this machine, and was made, in 1623, engraver to the tower mint. It seems to have been used with the hammer, and at intervals only, until the year 1662, when Charles II. introduced the last important regulations of the mint, prior to its late new constitution. At the same period he took upon the government the whole expense of the coinage of money.

An extensive silver coinage in king William III's reign was executed at several country mints, besides the mint at the Tower. The principle of this coinage was a subject of great controversy between the celebrated Mr. Locke, Mr. Lowndes, and others. The latter proposed to regulate the coinage by the existing market price of silver; although that price (exceeding its mint price) arose from the deficiency in the weight of those coins by which silver and all other commodities were bought and sold. Mr. Locke perceived this, and contended that if the coinage were executed at a higher rate than the standard of the 46th of Elizabeth, or 5s. 2d. per ounce, it would be done at the expense of justice and integrity between the government and the people, and this noble argument prevailed.

In September 1717 Sir Isaac Newton delivered in a report to the lords of the treasury, giving it as his opinion that gold was considerably overrated in the mint with respect to silver: in consequence of this the guinea was, by proclamation dated the 22d of December, 1717, declared current at 21s., which has ever since been its standard value. The price of gold now became fixed at £3. 17s. 10½d. per ounce at the mint.

In 1774, and subsequent years, there was a general recoinage of the gold currency; the object of which was stated to be a reformation of the light and defective coins then in circulation; £4 in fact of the gold coin then abroad would not weigh more than an ounce; and this, according to the bank accounts, was the market price. The holders of bank notes demanding new and heavy coins for them, required the bank to have a large coinage of gold to supply this demand. The coins were therefore melted, and sold in the state of bullion to the bank for £4 per ounce; to remedy which the recoinage was completed. It had the effect desired, Mr. Mushet tells us; for the price of gold, for upwards of twenty years, never exceeded, but was rather under, its mint price.

A committee of the privy council ordered to

take into consideration the state of the coins in 1798, being desirous to ascertain whether that loss was occasioned by any defect, either in the quality of standard gold, or in the figure or impression of the coins, requested Mr. Henry Cavendish and Mr. Hatchett to examine, by such experiments as should be deemed requisite, whether any of those defects really existed.

The two following questions were principally recommended to their consideration:—

‘1st. Whether very soft and ductile gold, or gold made as hard as is compatible with the process of coining, suffers the most by wear, under the various circumstances of friction to which coin is subjected in the course of circulation?’

‘2d. Whether coin with a flat, smooth, and broad surface, wears less than coin which has certain protuberant parts raised above the ground or general level of the pieces?’

From a set of well contrived experiments, which were extended to a considerable length, it appeared that gold of moderate ductility is best calculated for coin, and that the quality of the present standard gold is well adapted to resist abrasion, especially in the case of the friction of coin against coin; and that the wear is greater upon raised or embossed surfaces than upon those which are flat and plain. The wear of standard silver appeared to be nearly equal to that of fine gold; but more than that of gold made standard by silver or by copper.

In the course of this year the officers of the mint repeated the experiments which they had made in the year 1787, respecting the actual wear of the silver coins, from which it appeared that a considerable loss had been occasioned by the wear of eleven years only; for it was found that

12 $\frac{3}{8}$	Crowns,
27 $\frac{7}{8}$	Half crowns,
82 $\frac{2}{5}$	Shillings,
200 $\frac{3}{4}$	Sixpences,

were requisite to make up a pound troy, instead of

12 $\frac{1}{8}$	Crowns,
24 $\frac{3}{4}$	Half crowns,
62	Shillings,
124	Sixpences,

as issued from the mint.

This deficiency amounted in the

Crowns to	3 $\frac{1}{4}$	per cent.
Half crowns	9 $\frac{2}{5}$	per cent.
Shillings	24 $\frac{1}{2}$	per cent.
Sixpences	38 $\frac{3}{4}$	per cent.

and the increased deficiency in the course of eleven years,

In the Crowns to	1 $\frac{1}{2}$	per cent.
In the Half crowns to	1 $\frac{3}{4}$	per cent.
In the Shillings to	5 $\frac{3}{8}$	per cent.
In the Sixpences to	3 $\frac{1}{4}$	per cent.

Details of the more modern coinage do not properly belong to this paper: we proceed to observe that the old machinery in use at the mint, prior to the great alterations introduced by Mr. Boulton, were, 1. The rolling mill, for reducing the plates of metal to a proper thickness. 2. The cutting machine, for punching

them into a proper size. 3. The milling machine: and, 4. The coining press, properly so called.

Mr. Boulton first became connected with the mint in consequence of his undertaking an extensive copper coinage for government in the year 1799. This he executed at his own works at Soho, near Birmingham: he was afterwards employed to re-stamp, without melting, a large quantity of Spanish dollars; and after the governments of France, Russia, and Denmark, as well as the East India Company, had availed themselves of his scientific apparatus, he was called upon to furnish the principal machines of the new mint, established on Tower Hill, in 1811.

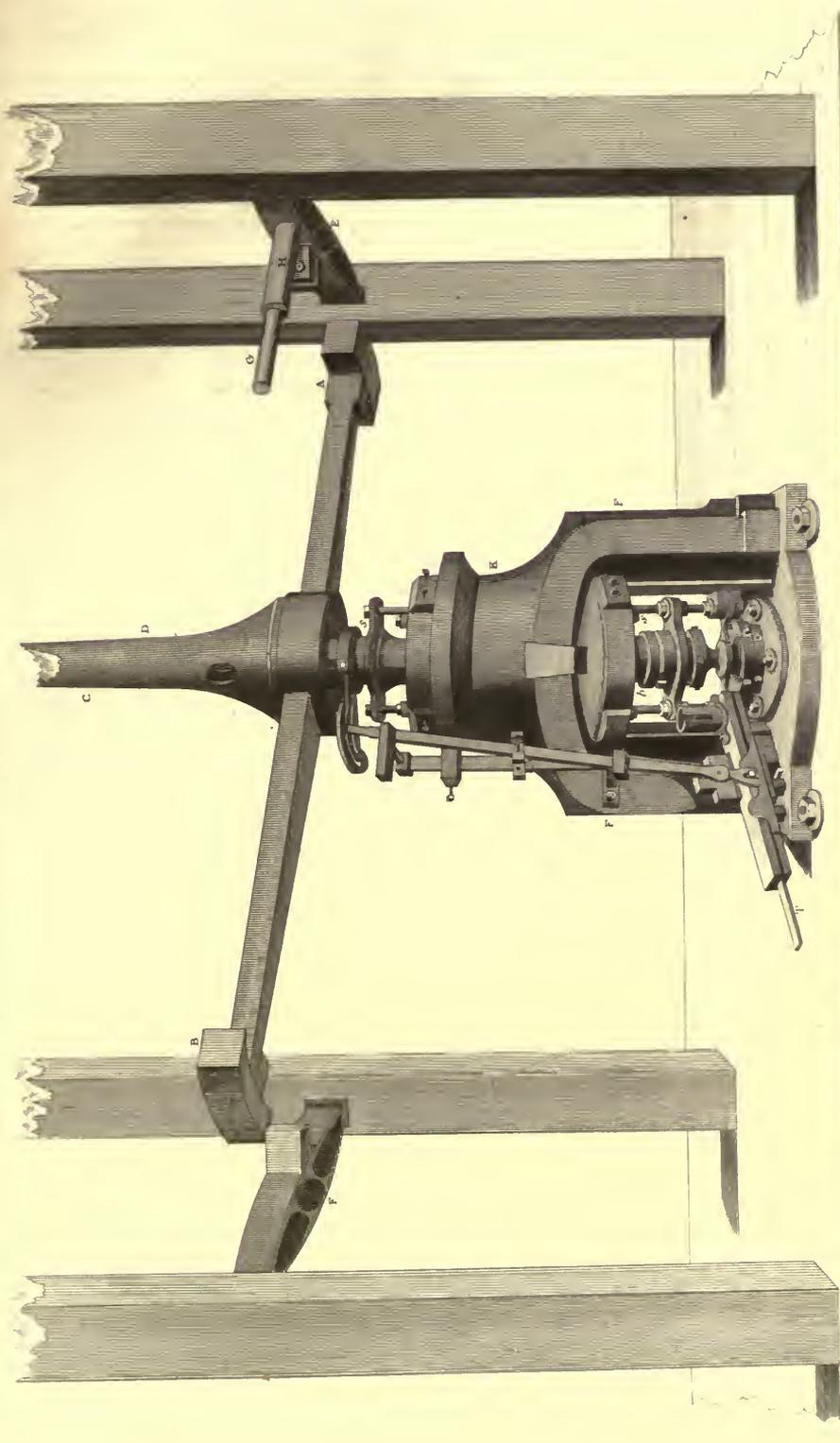
We may first describe the new *rolling press*, erected, we believe, by J. Rennie, esq. This machine is for the purpose of laminating or rolling the bars of metal, whether of gold or silver, into a proper thickness for the cutting-out mill. Those of gold are rolled cold, and can be reduced from an inch thick to the thinness of half a sovereign, without being annealed. The silver bars are rolled when heated to redness, in a reverberatory furnace.

Figs. 1 and 2, plate I., MONETARY ART, are the rollers exhibited in a sectional view, and in a perspective view of one roller. U and L are the upper and lower rollers; SS the standards of a cast-iron frame in which they are fixed, by bearing brasses, regulated by the screws QQ. Each of these screws has a cog-wheel fixed on the upper end of it, turned by worms, fixed on a common axis, by the handle shown in front. This handle raises or lets fall the upper roller, but always in a parallel direction to the lower one. The standards being bolted down to the cast-iron sills, OO, the latter are embedded in the masonry beneath.

The moving power of this machine is steam, and is received by the large wheel W, which moves the long shaft FF, connected by cogs with the smaller wheels L and K, which turn the upper roller. R, R, are sockets by which the shafts are joined, and which admit a little yielding when the roller is moved upwards. The wheels I, J, also fixed on the shaft N, turn the lower roller, being connected by an intermediate wheel applied on one side, and which operates so that the two rollers U and L, are turned in opposite directions.

Fig. 2 needs little description; but it more fully exhibits the chief parts of each roller: the metal is introduced on the table T. Fig. 3 is a steel gauge, or pair of rulers, used for ascertaining the exact thickness to which the metal is reduced by the operation of rolling, and which is marked by the degree to which it will allow them to open upon it.

The planchet, or *cutting-out mill*, i. e. that which cuts the metal to its right width after it comes from the rolling mill, is exhibited in plate II., fig. 1. AA is the frame work of the machine, attached to a strong sill, and connected by a wheel, W, with the shaft F of the rolling mill. C and D are two cog wheels moving the circular shears S, S, between which is conducted the rolled plate of metal at E; and G is the guide of



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MONETARY ART.

Fig 1

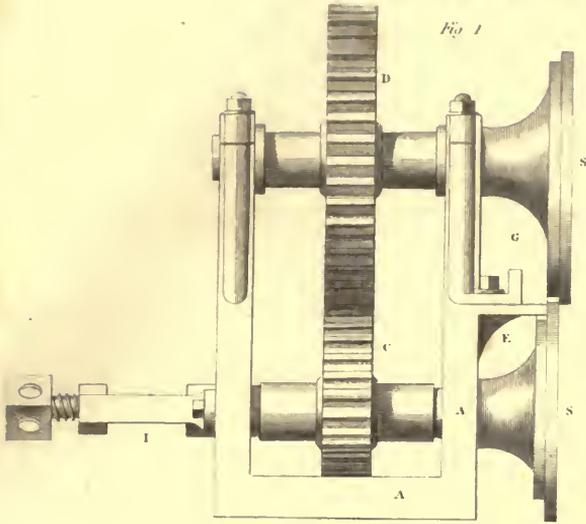


Fig 3

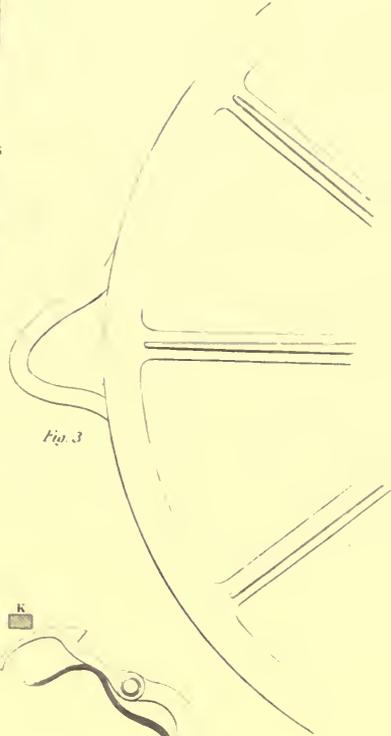


Fig 2

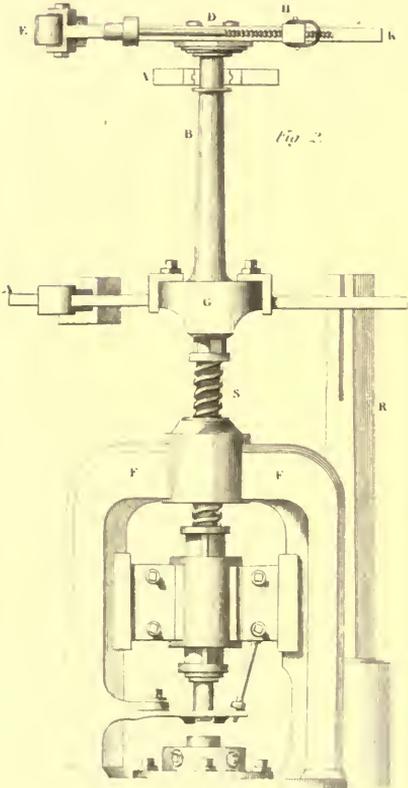


Fig 4

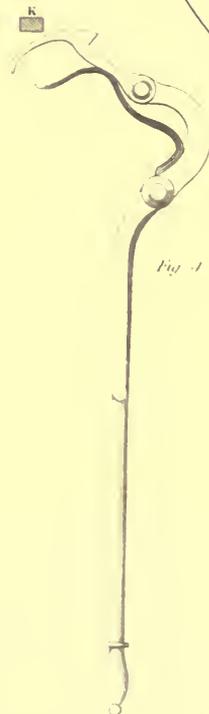


Fig. 1

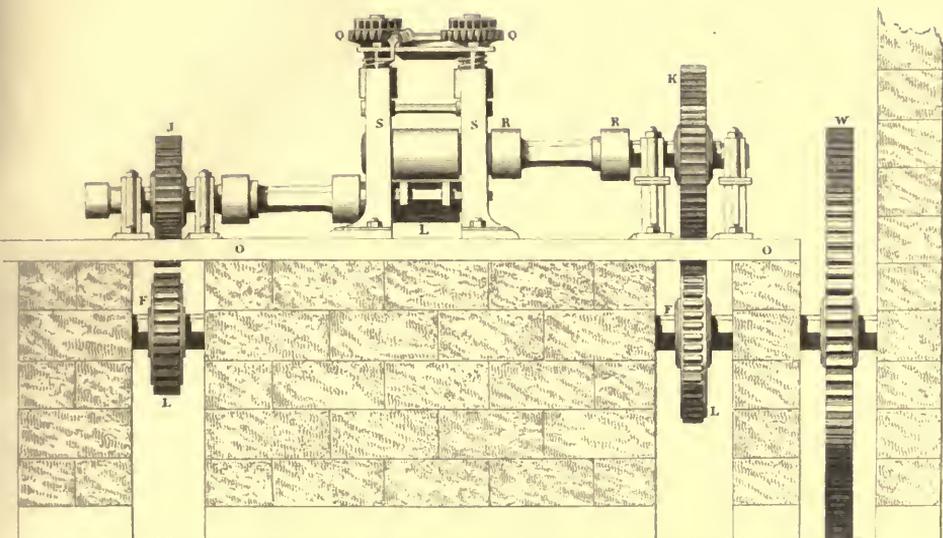


Fig. 3

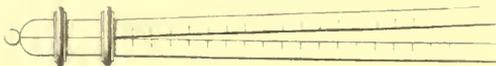
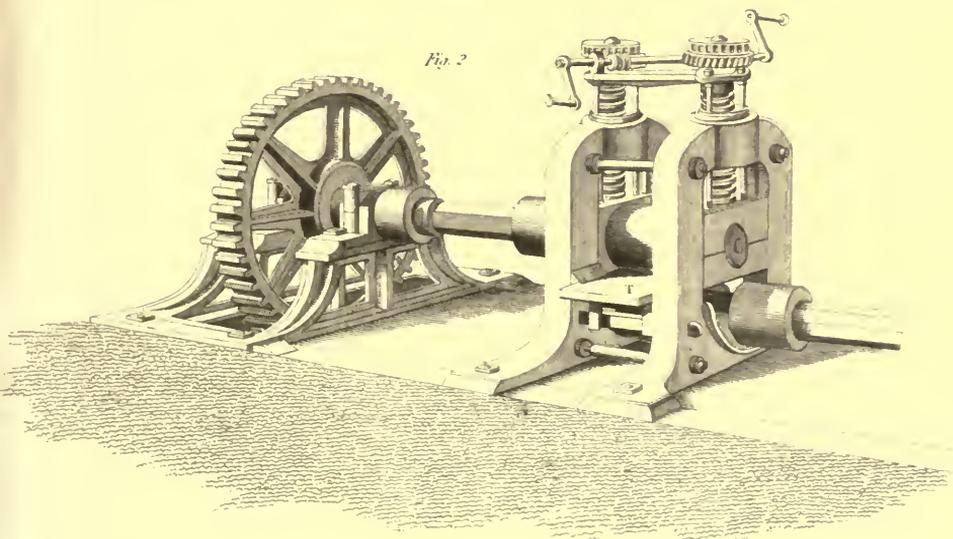


Fig. 2



the width to which it is cut, which, in the silver coins, is generally double that of the coin wanted.

When thus cut, the planchets were until lately subjected to a second rolling, to give them more exactly the thickness required in the coin: this was accomplished by a finishing rolling machine, made tighter by wedges and screws; and altogether a very clumsy contrivance. Of late, Mr. Barton, comptroller of the mint, has brought into use a far more accurate mode of effecting the object in view, by drawing the slips of metal between dies, in the manner of drawing wire. This has produced a uniformity in the thickness, of great practical consequence, and reduced the remedy on gold coin from forty to twelve grains troy. We regret that it is too complicated for description in this place.

The *blank cutting out press* is now resorted to; and twelve of these are fixed round an immense wheel, turned by steam, and having a large regulating fly on its own axis. The whole of the presses are fixed on a circular stone basis, and form a handsome colonnade, in a circular room of the mint: they operate so simply and uniformly that boys are employed to feed them.

Each press resembles, in appearance, the common fly press, used to take seal and other impressions, and is worked on the principle of a weight used as a fly. FF is the iron framework, supporting the action of the screw S, which terminates in a steel punch, P, fitting exactly into the die underneath it: to the punch is attached a circular piece of iron, which holds down the metal when the punch rises from it. On G, at the top of the screw, is fixed the arm A, furnished with a weight at one end, and striking at the other against a wooden spring which checks the motion after a stroke: Above this is seen a spindle, B, connected with another arm which consists of two parts. DE is immediately operated upon by the tooth, or large cog, C, of the immense wheel of which we have spoken, and of which a portion is shown in fig. 3: that is, the cog of this wheel impinging on E produces the stroke which turns the screw and lifts up the punch from the die. At H is a rod connected with this upper lever by a joint; the other end of the rod being connected with a bended lever, shown in fig. 4, from the other arm of which descends a rod with a piston affixed to it. This piston moves in a close cylinder, and, when drawn up, creates a vacuum; when the pressure of the atmosphere causes a reaction, and the moment the other end E escapes, or slips from the tooth T of the great wheel, the reaction of the piston draws the joint H back, and makes the screw turn round in that direction, which causes the punch to penetrate the die. To stop the machine a catch rises up and hooks the lever, so that it cannot return.

I, fig. 4, is moveable on a joint L and thrown upwards by a spring seen underneath. To this spring a cord N is fastened, which the boy who feeds the machine works by a common treadle. The air cylinders mentioned are contained in hollow pilasters, which seem to sustain the dome at the top of the apartment.

The blanks thus cut are, if needful, finely rectified as to weight by filing; but this, according

to the improved process, is now often not needed: and the pieces are now ready for milling. This operation is not shown in our mint, but has been thus described by a gentleman connected with it. Two steel bars or rulers, having their adjacent edges cut or fluted, are placed parallel to each other, and the piece of money is made to run on its edge between them. One bar is immoveable, being fastened down by clamps to a cast-iron plate, forming the base of the machine; the other bar is prevented from rising, but has the liberty of moving backwards and forwards in the direction of its length.

The *coining-press*, properly so called, and the most ingenious and important of the whole series of machines, may now be noticed in detail. It consists of a frame work, screwed by bolts on a basis of stone. On the top of the large screw is placed a heavy fly, the whole being moved by the spindle connected with a moving power in an upper apartment. The weights at the extremities of the arms of the fly are limited in their motion, by cheeks affixed to iron beams, extending from one column to the other: these are made very strong; the columns are of oak. The recoil of the fly, after having struck a coin, is checked by its coming against a piece, fitted into a tube, fixed to the great iron beam, and having a concealed spring to ease the blow. The upper moveable die is beneath the screw; and turns round with it whilst making the impression. The screw is cylindrical at each end, and is fitted in very accurate bearings, adjustable by screws above and below; between these it is cut into a worm or screw, and is received in a proper nut, but it depends on this only for its ascent and descent, the fittings at the ends keeping it vertical. The coin is therefore struck with a twisting motion, which is supposed to give it a better impression.

The blanks are placed in this machine by a set of very ingenious contrivances: it is, in fact, the most perfect species of automaton. A sliding pair of tongs takes in the small tube into which the blanks are put, ten or twelve at once, and takes them away one at a time. The principal lever is furnished with a joint near the lower end, and two springs, which act in the same manner as the springs in the back of a knife, to keep it straight, and carry the tongs forward; but, if any obstruction arises, the lever bends. The centre of the lever is adjustable to regulate the length of its motion by a sliding centre, fitted upon a vertical bar.

We have thus described the principal machines used at the mint in the art of coining, properly so called. Those for reducing the silver to proper ingots are also very creditable to the establishment; but our limits prevent us from entering into a particular account of them. On the whole we apprehend that while important ends of public security, and the defence of the ignorant from imposture, are answered by the monopoly of this art by government, it would receive great improvement in private hands; and has, at the present time, its due share of multiplied offices and machinery about it, compared to what we should find in case it were pursued for private emolument. For the trial of the p^{ix}, see P^{ix}.

MONEY, n. s.

MON'YBAG,

MON'YBOX,

MON'YCHANGER,

MON'YED, adj.

MON'YER, n. s.

MON'YLESS, adj.

MON'YMATTER, n. s.

MON'YSCRIVENERS,

MON'Y'SWORTH.

bring money: the other compounds do not seem to require explanation.

But petir seide to him the *money* be with thee into perdicion, for thou gessidist the ghifte of god schulde be had for *money*.
Wiclif. Dedis. 8.

I will give thee the worth of it in *money*.

1 Kings xxi. 2.

Importune him for *monies*: be not ceast
With slight denial.

Shakspeare. Timon of Athens.

The jealous wittolly knave hath masses of *money*.
Shakspeare.

You need my help, and you say

Shylock, we would have *monies*. *Id.*

Look to my house; I am right loth to go;

There is some ill a brewing towards my rest,

For I did dream of *moneybags* to night. *Id.*

Invite *moneyed* men to lend to the merchants for the continuing and quickening of trade. *Bacon.*

Wives the readiest helps

To betray heady husbands, rob the easy,

And lend the *monies* on return of lust.

Ben Jonson.

He that gives alms that he may keep his lust,
loses his soul and his *money* too. *Jer. Taylor.*

There is either *money* or *money'sworth* in all the controversies of life; for we live in a mercenary world, and it is the price of all things in it.

L'Estrange.

Money differs from uncoined silver, in that the quantity of silver in each piece of *money* is ascertained by the stamp it bears, which is a publick voucher. *Locke.*

If exportation will not balance importation, away must your silver go again, whether *moneyed* or not *moneyed*; for, where goods do not, silver must pay for the commodities you spend. *Id.*

My discourse to the hen-pecked has produced many correspondents; such a discourse is of general use, and every married man's *money*. *Addison.*

My place was taken up by an ill-bred puppy, with a *moneybag* under each arm. *Id. Guardian.*

The usurers or *moneychangers* being a scandalous employment at Rome, is a reason for the high rate of interest. *Arbutnot.*

What if you and I, Nick, should enquire how *money* matters stand between us? *Id.*

Suppose a young inexperienced man in the hands of *moneyscriveners*; such fellows are like your wire-drawing mills, if they get hold of a man's finger, they will pull in his whole body at last. *Id. History of John Bull.*

People are not obliged to receive any *monies*, except of their own coinage by a public mint. *Swift.*

Those hucksters or *money* jobbers will be found necessary, if this brass *money* is made current in the exchequer. *Id.*

Several turned their *money* into those funds, merchants as well as other *moneyed* men. *Id.*

The strong expectation of a good certain salary will outweigh the loss by bad rents received out of lands in *moneyless* times. *Id.*

Sax. mýnet; French

monnoye; Lat. *moneta*.

Coined metal: *moneyed*

is rich in *money*, or

affluent: *moneyer* either

a dealer in, or coiner of

money: *moneyless*,

pennyles; poor: *money'sworth*, something

valuable, or that will

Shall I withhold a little *money* or food from my fellow creature, for fear he should not be good enough to receive it from me? *Law.*

See what *money* can do; that can change

Men's manners; alter their conditions!

How tempestuous the slaves are without it.

O, thou powerful metal! what authority

Is in thee! thou art the key of all men's

Mouths. *Broome.*

Money and time are the heaviest burthens of life, and the unhappiest of all mortals are those who have more of either than they know how to use. *Johnson.*

MONFALONT, or **MOMFLOT**, a large town of Upper Egypt, on the left bank of the Nile, about a mile from the river, is well built, and carries on an extensive commerce in grain. There is also a very large cloth manufactory here. On the opposite side of the Nile is a spacious Coptic monastery, surrounded with high walls, the entrance to which is by a basket drawn by pulleys: it is called the Convent of the Pulley. Long. 31° 36' E., lat. 27° 42' N.

MONFIA, a low island off the eastern coast of Africa, to the south of Zanzibar. It is nearly 100 miles in length from north to south, but seldom more than eight or ten in breadth. The surface is fertile; but it is little frequented. Lat. 7° 30' S.

MONGAULT (Nicholas Hubert), an ingenious and learned Frenchman, and one of the first writers of his time, born in Paris in 1674. At sixteen he entered the congregation of the oratory, and was afterwards sent to Mans to learn philosophy. Although that of Aristotle was then the only one permitted to be taught, Mongault, with that spirit which usually distinguishes men of abilities, ventured in a public thesis to oppose the opinions of Aristotle, and to maintain those of Descartes. Having studied theology with the same success, he quitted the oratory in 1699; and soon after went to Thoulouse, and lived with archbishop Colbert, who had procured him a priory in 1698. In 1710 the regent duke of Orleans committed to him the education of his son the duke of Chartres. In 1714 he had the abbey of Chartreuse given him, and that of Villeneuve in 1719. The duke of Chartres, becoming colonel general of the French infantry, appointed Mongault secretary general; made him secretary of the province of Dauphiny, and raised him to other considerable employments. In 1714 he published in Paris, in 6 vols. 12mo., an edition of Tully's Letters to Atticus, with an excellent French translation, and judicious comment. In this work he has happily illustrated many passages which the interpreters before him had given up as inexplicable. He published also a very good translation of Herodian from the Greek; the best edition of which is that of 1745, in 12mo. He died at Paris in 1746. He was a member of the French academy, and of the academy of inscriptions and belles lettres.

MONGE (Gaspar), a celebrated French mathematician and philosopher, was born at Beaune in 1746, and studied under the fathers of the oratory at Beaune and Lyons. He became a teacher at the age of sixteen, and was soon after employed at the military school of Mezieres, as assistant to Bossut the professor of mathematics,

and to Nollet, professor of physics, whom he succeeded. He removed in 1780 to Paris, on being admitted into the Academy of Sciences, and became the coadjutor of Bossut, in a course of lectures on hydrodynamics. Quitting Mezieres finally in 1783, he composed a Treatise on Statics, afterwards used for the Polytechnic school. Through the influence of Condorcet, he was made minister of the marine in 1792, and held the portfolio of minister of war during the active service of general Servan. As a member of the executive council of government, he disgraced himself by signing the order for the execution of Louis XVI., and shortly after resigned. He was now engaged, with other men of science, in improving the manufacture of gunpowder. When the Normal School was founded, with which he became connected, he published his *Geometric Descriptive*. He also principally contributed to the establishment of the Polytechnic school; after which, in 1796, he was sent into Italy, to collect, or more properly speaking to plunder, the treasures of art and science from the countries conquered by the republic. In 1798 he accompanied Buonaparte to Egypt; on his return he resumed his functions as professor at the Polytechnic School, in the success of which he greatly shared; while the attachment which he manifested to Buonaparte led to his being nominated a member of the senate. The emperor also bestowed on him the title of count of Pelusium, the senatorial lordship of Liege, and an estate in Westphalia. He was a grand cordon of the legion of honor, and, a little before the Russian expedition, received a present of 200,000 francs. On the fall of his benefactor he was expelled the Institute and deprived of all his employments. On this he is said to have become disordered in his faculties, and died July 28th, 1818. Besides the above work, Monge published *Description de l'Art de fabriquer les Canons*, 4to.; and *Application de l'Analyse à la Geometrie des surfaces*, 4to.; as well as various memoirs on mathematical and physical science.

MONGER, *n. s.* Sax. *mangere*, a trader; from Sax. *mangian*, to trade. A dealer; seller; and sometimes a meddler in any thing. A word seldom or never used alone, or otherwise than after the name of a commodity to express a vender of that commodity: as, a fishmonger; a newsmonger, &c.

Whore-mongers and adulterers God will judge.

Heb. xiii. 4.

Do you know me?—Yes, excellent well, you are a fish-monger.

Shakspeare.

Neither did his departed soul want, somewhere, as is reported, suffrages and oblations of mass-mongers in this behalf.

Bp. Hall.

The impatient states-monger

Could now contain himself no longer.

Hudibras.

MONGHIR, a considerable and well cultivated district of Bahar, Hindostan, situated between 26° and 28° of N. lat. To the north it is bounded by Tyrhoot and Purnah; on the south by Ranguram and Birbhoom; to the east by Rajemal and Birbhoom; and to the west by the Bahar district and Rangur. In 1784 this district, in all its dimensions, contained 8270 square miles,

of which only 2817 are in the Boglipoor division on both sides of the Ganges.

Monghir seems formerly to have been inhabited only by Thudufarkers, of the class denominated Rick, who resided in the woods. One of these whose habitation was upon a rock in the Ganges, is said, with the assistance of Vishwa Karma, the god and patron of artists, to have built a fort, and named it Monghir. The country is described as being at that time a complete uncultivated jungle, containing a temple dedicated to the goddess Chandi. The district is now one of the best cultivated in the Company's dominion. The fields in the neighbourhood of the town are divided into squares, and cultivated with great care. They produce a great variety of leguminous plants, mustard seed, castor oil, opium, and various grains.

In this district is now a hot-well, named Seetacoond, situated about half a mile from the banks of the Ganges, in a plain backed by hills and rocks. The spring is considerable, and the water is too hot to admit keeping the hand long in it, yet there are cold springs on the sides, at the distance of about twenty paces. In 1801 the inhabitants of the Monghir, or Boglipoor district, were estimated at 600,000.

MONGHIR, a town and fortress of Bahar, situated on the south bank of the river Ganges, in lat. 25° 23' N., long. 86° 38' E.

The fort, which is of great antiquity, is large, surrounded by a wall and deep ditch, and most beautifully situated on the Ganges, which, in the rainy season, forms here a prodigious expanse of water. It was the chief residence of sultan Sujah during his government of the Bengal province. Subsequently it became the residence of Cossim Ali Khan, at the time he intended to throw off all dependence on the English. He added considerably to the fortifications, but it was taken by the English after a siege of nine days. The point of the rock at this place, which withstands the whole force of the Ganges, is considered as a sacred bathing place, and during the season the crowd here is prodigious. The place is at present occupied by invalid sepoy, their commandant having possession of the ruins of the palace.

Travelling distance from Monghir to Calcutta, by Birbhoom, 275 miles; by Moorshedabad, 301 miles.

MONGOLIA, a region of Central Asia, north and north-west by China, and situated between that empire and Asiatic Russia. Its limits are vague, and the country is only traversed by the wandering hordes of Mongols, or Moguls, who have been so celebrated in the annals of Asia. At present they have lost all settled dominion, and are split into a number petty states, dependent upon Russia or China. The proper limits of Mongolia are, to the east, the country of the Mantchous; to the west, the mountains continued northwards from the Beloor and the lake Palcati Nor; to the west of this is the country of the Tartars; on the south Mongolia is bounded partly by China, and partly by Turkistan. Nearly the whole of this immense territory consists of a level plain, which borders on the Altai, and other mountain chains that form the Russian

frontier. It includes a considerable part of the desert of Shamo, or Cobi; the habitable part is composed entirely of pasturage. The chief vegetable produce is rhubarb. In this region rise some of the greatest rivers of Russia and China, the Hoangho, the Amour, and even the Irtysh; but scarcity of water is a common want here. The inhabitants are distinguished decidedly from both the Turks and Tartars. They are muscular and strongly built; of middle size; their faces square, broad, and flat; their noses particularly low, and their eyes oblique, small, and dark. They have thick lips, a short chin, little beard, and large ears. Their black and strong hair is almost wholly shaven off, except a tuft on the crown. The common dress consists of sheep or lambs' skins, with the wool inwards, which retain a scent which is perceptible at some distance. The rich wear cotton lined with skins. Their food consists entirely of milk and flesh, and they esteem horse-flesh a delicacy. Their favorite liquor is fermented mare's milk, or kounuss. Their tents are composed of a thick, gray, or white felt, of a conical form, with a hole at the top. They use tea, mead, and tobacco; but their horses are their pride, and they are peculiarly expert in training them. These horses are in general small, but some of them would be considered handsome in Europe: their sheep are of that species common throughout Tartary, distinguished by large tails. The country abounds in deer and other game, particularly wild horses and mules, and animals of the elk and lynx species. A few sables are found, though not of great beauty. The internal government is here carried on by native princes, called khutuktus, or regulos, who, at the time of the last conquest, were divided into forty-nine standards or tribes. Tribute to any power is the extent of their allegiance; but in many cases, instead of paying, they receive it. They are rude, but frank and hospitable, gay and cheerful, and spend a considerable part of their time in sports and exercises. Polygamy is permitted, but little practised. They have national songs and music, but the latter is said to be very disagreeable. They profess the religion of Fo, and have resident among them Lamas, who pretend to the gift of immortality, and are held in the highest reverence by the people, while, however, they are very many of them unable even to read. The doctrine of the transmigration of souls is an established part of their creed. Besides the Mongols proper a number of other nations are found here, of which the principal are the Kalkas and the Eluths. The Buriats of Asiatic Russia are of Mongol origin.

MON'GREL, *adj.* Sax. mang; Belg. *men-gen*, to mix. Of a mixed breed: written also mongrel.

This zealot
Is of a mongrel, divers kind,
Clerick before, and lay behind.

Hudibras.

Ye mongrel work of heaven, with human shapes,
That have but just enough of sense to know
The master's voice. *Dryden's Don Sebastian.*

I'm but a half-strained villain yet,
But mongrel mischievous. *Dryden.*

Base, groveling, worthless wretches;
Mongrels in faction; poor faint-hearted traitors.
Addison.

His friendships, still to few confined,
Were always of the middling kind;
No fools of rank, or mongrel breed,
Who fain would pass for lords indeed.
Swift's Miscellanies.

And in that town a dog was found,
As many dogs there be,
Both mongrel, puppy, whelp, and hound,
And curs of low degree. *Goldsmith.*

MON'JOUS, a people of Eastern Africa, in the interior, north-easterly from Mosambique. They appear to occupy but a small territory, and the only authentic account we have of them, is from a caravan with slaves, ivory, &c., which arrived at Mosambique in 1809, during Mr. Salt's residence there. The distance of their country from the coast is conjectured by the time which the caravan had employed in traversing it, i. e. about two months; but, as a considerable period had been spent in rest, the real travelling period was only forty-five days, which, at fifteen miles a day, would give between 600 and 700 miles. This people are said to be black negroes of the ugliest description, with high cheek bones, thick lips, and small knots of woolly hair. Their weapons are bows and arrows; and they have a mode of exciting flame by rubbing two pieces of hard wood against each other, similar to that described by Bruce, as practised by a tribe near Sennear. They appeared milder than the same tribes in the neighbourhood of Mosambique.

MON'ISH, *v. a.* Latin *moneo*. To
MON'ISHER, *n. s.* } advise; admonish;
MONIT'OR, } correct: monition is
MONITOR, } advice; hint; informa-
MONITORY, *adj. & n. s.* } tion: a monitor,
one who gives hints or advice, or who informs or minds of a duty: monitory, conveying instruction or admonition: also the instruction or admonition conveyed.

And sith that she and I accorde
Have upon him misericode,
For I you praie, and eke moneste,
Nought to refus in our requeste. *Chaucer.*
Monish him gently, which shall make him both
willing to amend, and glad to go forward in love.
Ascham's Schoolmaster.

You need not be a monitor to the king; his learning is eminent: be but his scholar, and you are safe. *Bacon.*

A king of Hungary took a bishop in battle, and kept him prisoner; whereupon the pope writ a *monitory* to him, for that he had broken the privilege of holy church. *Id.*

We have no visible *monition* of the returns of any other periods, such as we have of the day, by successive light and darkness. *Holder on Time.*

We can but divine who it is that speaks; whether Persius himself, or his friend and monitor, or a third person. *Dryden.*

Unruly ambition is deaf, not only to the advice of friends, but to the counsels, and *monitions* of reason itself. *L'Estrange.*

Losses, miscarriages, and disappointments, are *monitory* and instructive. *Id.*

The pains that come from the necessities of nature are *monitors* to us to beware of greater mischiefs. *Locke.*

It was the privilege of Adam innocent to have these notions also firm and untainted, to carry his monitor in his bosom, his law in his heart, and to have such a conscience as might be its own casuist.

South's Sermons.

He is so taken up still, in spite of the *monitory* hint in my essay, with particular men, that he neglects mankind.

Poye.

Then after sage *monitions* from his friends, His talents to employ for nobler ends, He turns to politics his dangerous wit.

Swift.

MONK, *n. s.* Sax. *monec*; Lat. *mona-*
MONK'ERY, } *chus*; Gr. *μοναχος*. A re-
MONK'HOOD, } ligious recluse. See below.
MONK'ISH, *adj.* } Monastery and monkhood mean the state or habits of a monk: monkish, monastic; pertaining to the so-called religious life.

Abdemeleck, as one weary of the world, gave over all, and betook himself to a solitary life, and became a melancholy Mahometan monk.

Knolles.

'Twould prove the verity of certain words,

Spoke by a holy monk. *Shakspeare. Henry VIII.*

Neither do I meddle with their evangelical perfection of vows, nor the dangerous servitude of their rash and impotent votaries, nor the inconveniences of their monkery.

Hall.

Monks, in some respects, agree with regulars, as in the substantial vows of religion; but in other respects *monks* and regulars differ; for that regulars, vows excepted, are not tied up to so strict a rule of life as *monks* are.

Auliffe's Parergon.

Rise, rise, Roscommon, see the Blenheim muse, The dull constraint of monkish rhyme refuse.

Smith.

The drishish monks, the scorn and shame of manhood,

Rouse and prepare once more to take possession, And nestle in their ancient hives again.

Rove.

He had left off his monkhood too, and was no longer obliged to them.

Atterbury.

Those public charities are a greater ornament to this city than all its wealth, and do more real honour to the reformed religion, than redounds to the church of Rome from all those monkish and superstitious foundations of which she vainly boasts.

Id.

MONK, denoted anciently 'a person who retired from the world to give himself up wholly to God, and to live in solitude and abstinence.' The original word *μοναχος*, solitary, is derived from *μονος*, alone. The persecutions which attended the first ages of the Gospel forced some Christians to retire from the world, and live in deserts and unfrequented places, in hopes of finding that peace and comfort among beasts which were denied them among men. And this being the case of some very extraordinary persons, their example gave so much reputation to retirement that the practice was continued when the reason of its commencement ceased. After the empire became professedly Christian instances of this kind were numerous; and those whose security had obliged them to live in solitude became afterwards united into societies. The mystic theology also, which gained ground towards the close of the third century, contributed to produce the same effect, and to drive men into solitude for the purposes of enthusiastic devotion. St. Cyril of Alexandria, in one of his letters, censures certain monks in Egypt, who, under pretence of devoting themselves to prayer, led a lazy scandalous life; a censure but too often applicable to monks in general.

The ancient monks were distinguished into solitaries, cœnobites, and sarabaites. The solitary were those who lived alone, remote from all towns, as do still some of the hermits. The cœnobites were those who lived in community with others in the same house, and under the same superiors. See CŒNOBITE. The sarabaites were strolling monks, having no fixed rule or residence. The houses of monks again were of two kinds, viz. monasteries and lauræ. See LAURA and MONASTERY. Those we now call monks are cœnobites, who live together in a monastery: who make vows of living according to a certain rule established by the founder, and wear a habit which distinguishes their order. Those that are endowed, or have a fixed revenue, are most properly called monks; as the Chartreux, Benedictines, Bernardines, &c. The Mendicants, or those that beg, as the Capuchins and Franciscans, are more properly called religious and friars; though the names are frequently confounded.

The first monks were those of St. Anthony; who, in the fourth century, formed them into a regular body, engaged them to live in society with each other, and prescribed to them fixed rules for the direction of their conduct. See ANTHONY. These regulations, which Anthony had made in Egypt, were soon introduced into Palestine and Syria by his disciple Hilarion. Almost about the same time, Aones and Eugenius, with their companions Gaddanas and Azyzas, instituted the monastic order in Mesopotamia and the adjacent countries; and their example was followed with such rapid success, that in a short time the whole east was filled with a lazy set of mortals, who, abandoning all human connexions, advantages, and concerns, wore out a languishing and miserable life amidst the hardships of want, and various kinds of suffering, in order, as they pretended, to arrive at a more close and rapturous communication with God and angels. From the east this gloomy institution passed into the west, and first into Italy and its islands; though it is uncertain who transplanted it thither. St. Martin, bishop of Tours, erected the first monasteries in Gaul, and recommended this religious solitude with such efficacy, that his funeral is said to have been attended by no fewer than 2000 monks. From hence the monastic discipline extended through the other countries of Europe. There were besides the monks of St. Basil (called in the east Calogeri, from *καλος γερον*, good old man), and those of St. Jerome, the hermits of St. Augustine, and afterwards those of St. Benedict and St. Bernard; at length came those of St. Francis and St. Dominic, with a legion of others. See BENEDECTINES, CALOGERI, &c.

Towards the close of the fifth century the monks, who had formerly lived only for themselves in solitary retreats, and had never thought of assuming any rank among the sacerdotal order, were gradually distinguished from the populace, and endowed with such opulence and honorable privileges that they found themselves in a condition to claim an eminent station among the supports and pillars of the Christian community. The fame of their piety and sanctity was so great that bishops and presbyters were often

chosen out of their order; and the passion of erecting edifices and convents, in which the monks and holy virgins might serve God in the most commodious manner, was at this time carried beyond all bounds. However their licentiousness, even in this century, was become proverbial, and they excited the most dreadful tumults and seditions in various places. The monastic orders were at first under the immediate jurisdiction of the bishops, from which they were exempted by the Roman pontiff about the end of the seventh century; and the monks, in return, devoted themselves wholly to advance the interests and to maintain the dignity of the bishop of Rome. This immunity which they obtained was a fruitful source of licentiousness and disorder, and occasioned the greatest part of the vices with which they were afterwards so justly charged. In the eighth century the monastic discipline was extremely relaxed both in the eastern and western provinces, and all efforts to restore it were ineffectual. Nevertheless this kind of institution was in the highest esteem, and nothing could equal the veneration that was paid, about the close of the ninth century, to such as devoted themselves to the sacred gloom of a convent. This veneration induced several kings and emperors to call them to their courts, and to employ them in civil affairs of the greatest moment. Their reformation was attempted by Louis the Meek, but the effect was of short duration. In the eleventh century they were exempted by the popes from the authority of their sovereigns, and new orders of monks were continually established; insomuch that in the council of Lateran, held in 1215, a decree was passed by the advice of Innocent III., to prevent any new monastic institutions; and several were suppressed. In the fifteenth and sixteenth centuries, it appears, from the testimonies of the best writers, that the monks were generally illiterate, profligate, and licentious Epicureans, whose views in life were confined to opulence, idleness, and pleasure. However the reformation had a manifest influence in restraining their excesses, and rendering them more circumspect in their external conduct. See REFORMATION.

It is fair, perhaps, to insert from an accredited source the modern doctrine of the church of Rome on this point.

Respecting the celibacy of the clergy at large, she says, 'The discipline of our church in this point has not always been, it is plain, precisely what it is at present; but because it is discipline, therefore may it be changed, as in the alteration of times and circumstances it has seemed, or shall seem, good to our ecclesiastical rulers. In the Greek and Latin churches the discipline is not the same; but in both the advice of St. Paul, founded on the justest views, if it did not always enforce the practice, served to establish the expediency of clerical celibacy.'

In regard to the religious or monastic state, it is afterwards said, 'On the advice given by Christ and by the apostle in these passages (Matt. xix. 10, 11, 20; 1 Cor. vii. 7, 8, 38—40) is founded the opinion which Catholics entertain of the expediency of what are called the *evangelical counsels*, that is of voluntary poverty, per-

petual chastity, and entire obedience. 'When counsel is given,' says St. Jerome, 'the will is free; when a command, strict obedience is required.' To live up to these counsels constitutes the character of the monastic profession; the vows or solemn promises which are freely made induce the obligation, and from this arises the perfection of the state. The fathers are unanimous in their praises, and it was early in the Christian church that the state was embraced by many. It was not, however, before the fourth century that the eremitical life took a regular form in Egypt and other parts of the east; in the west St. Benedict, towards the close of the fifth, gave that rule to his followers which is most admired, and which has been very generally adopted by the various founders of religious orders, male and female, in the western church.—*Berrington's Faith of the Catholics confirmed by Scripture, and attested by the Fathers of the first five centuries.*

Monks are distinguished by the color of their habits into black, white, gray, &c. Some are called monks of the choir, others professed monks, and others lay monks; which last are destined for the service of the convent, and have neither clericate nor literature. Cloistered monks are those who actually reside in the house, in opposition to extra monks, who have benefices depending on the monastery. Monks are also distinguished into reformed, whom the civil and ecclesiastical authority have made masters of ancient convents, and put in their power to retrieve the ancient discipline which had been relaxed; and ancient, who remain in the convent, to live in it according to its establishment at the time when they made their vows, without obliging themselves to any new reform. Anciently the monks were all laymen, and were only distinguished from the rest of the people by a particular habit and an extraordinary devotion. Not only the monks were prohibited the priesthood, but even priests were expressly prohibited from becoming monks, as appears from the letters of St. Gregory. Pope Sixtus was the first who called them to the clericate, on occasion of some great scarcity of priests, that the church was then supposed to labor under; and, since that time, the priesthood has been usually united to the monastic profession.

MONK (George), the principal agent in restoring the British monarchy, in the person of king Charles II., was descended from a very ancient family, and born in Devonshire in 1608. He dedicated himself to arms from his youth, and obtained a pair of colors in the expedition to the Isle of Rhée; he served afterwards in the Low Countries with reputation in both king Charles's northern expeditions; and did such service, in quelling the Irish rebellion, that he was appointed governor of Dublin, but was superseded by the parliament. Being made major-general of the Irish brigade, employed in the siege of Nantwich in Cheshire, he was taken prisoner by Sir Thomas Fairfax, and remained confined in the Tower of London until 1646; when, to procure his liberty, he took the covenant, and accepted a command in the Irish service under the parliament. He obtained the command in chief of all the parliamentary forces

in the north of Ireland, where he did signal service, until he was called to account for a treaty made with the Irish rebels. But he served in Scotland under Oliver Cromwell with such success, that he was left there as commander-in-chief; and he was one of the commissioners for uniting that kingdom with the commonwealth. He served at sea also against the Dutch; and was treated so kindly on his return, that Oliver is said to have been jealous of his fame. He was, however, again sent to Scotland as commander-in-chief, and continued there five years; when he dissembled so well, and improved circumstances so dexterously, that he restored the king without any disturbance; for which he was duly rewarded. He was created duke of Albermarle, with a grant of £7000 per annum estate, beside other emoluments. After his death in 1670 there was published a treatise composed by him while he was prisoner in the Tower, entitled *Observations on Military and Political Affairs*, folio.

MONKEY. A diminutive of Sax. *mon*, man. An ape; baboon; hence a jackanapes or man who plays tricks like those of this animal: a term of contempt. See *SIMIA*.

One of them shewed me a ring that he had of your daughter for a *monkey*:—Tubal, it was my turquoise; I would not have given it for a wildness of *monkeys*.
Shakspeare.

This is the *monkey's* own giving out; she is persuaded I will marry her.
Id.

Poor *monkey!* how wilt thou do for a father? *Id.*

Other creatures, as well as *monkeys*, destroy their young ones by senseless fondness.

Locke on Education.

With glittering gold and sparkling gems they shine,

But apes and *monkeys* are the gods within.

Granville.

MONKLAND, an extensive district of Larkshire, originally forming only one parish, so named from the monks of Newbottle. But a part of it being, about 1640, erected into a separate parish, called New or East Monkland, the remainder of the district was named Old or West Monkland.

MONMOUTH (James), duke of, son of king Charles II. by Mrs. Lucy Walters, was born at Rotterdam in 1649. Upon the Restoration he was called over to England, created earl of Orkney, and afterwards of Monmouth, and took his seat in the house of peers. He married Anne, the heiress of Francis earl of Buccleugh; and hence he had also the title of Buccleugh, and took the surname of Scott. In 1668 his father made him captain of his life-guard of horse; and in 1672 he attended the French king in the Netherlands, and gave proofs of bravery and conduct. In 1673 the king of France made him lieutenant-general of his army, with which he came before Maestricht, and behaved with great gallantry, being the first who entered it. He returned to England, was received with all possible respect, and made chancellor of the University of Cambridge. After this he went to assist the prince of Orange to raise the siege of Mons, and contributed much towards it. He returned

to England, and was sent, as his father's general, to quell an insurrection in Scotland, which he effected. Being a Protestant, he was deluded into ambitious schemes, upon the hopes of the exclusion of the duke of York; he conspired against his father and the duke: and, when the latter came to the throne, he openly appeared in arms, encouraged by the Protestant army; but coming to a decisive battle before he had sufficient forces to oppose the royal army, he was defeated, taken soon after concealed in a ditch, tried for high treason, condemned, and beheaded in 1685, aged thirty-six.

MONMOUTH, a borough and market town of England, the county-town of Monmouthshire, is situate at the conflux of the Monnow and Wye, over which there are three bridges; there is another also over the small river Trothy, which falls into the Wye. It is twenty-five miles west from Gloucester, and 132 west by north from London. A broad and handsome street leads to the market-place, in which stands the town-hall, built over a handsome colonnade, and ornamented with the statue of Henry V., who was born in this place. At the extremity of the town is the gaol, a stone building, commodiously constructed, and under excellent regulations. St. Mary's, the parish church, is also of stone, and has a spire 200 feet high. St. Thomas's is a small ancient church near Monnow-bridge. A little to the north are the remains of an alien priory of Benedictines. There was a strong Saxon fortress here, of which the remains are very slight. A free-school is here founded by a William Jones, a native of Newland, in Gloucestershire, who also endowed alms-houses for twenty poor people, who receive 3s. 6d. per week: a stipend of £100 per annum is allowed to a lecturer. The chief business of the town arises from the navigation of the Wye, which supplies the surrounding country with necessaries, and gives it a share in the trade between Bristol and Hereford. Iron and tin-works in the vicinity also employ a few hands; as well as the preparing of bark, which is brought down in considerable quantities from the woods in the upper districts, and, being here picked and cleaned, is exported to the south of England and Ireland. In the neighbourhood is a conical hill, named the Kymyn, on the top of which is a naval pavillion, affording a very extensive prospect. Monmouth is thought to have been a Roman station, and, in conjunction with Usk and Newport, sends one member to parliament. The market on Saturday is well supplied with corn and provisions. Twenty-one miles west by south of Gloucester, fifteen north of Chepstow, and 130 west by north of London.

MONMOUTH, a county of New Jersey, bounded on the north-west by Middlesex county, on the north by Raritan Bay, on the east by the Atlantic, and on the south-west by Burlington county. Population 22,150. Chief town, Freehold.

MONMOUTH, a town of Monmouth, county of New Jersey, sixty-three miles E. N. E. of Philadelphia. The British troops under general Clinton were defeated here on the 17th of June, 1777, by the Americans under general Washington.

MONMOUTHSHIRE, a county of England, on the borders of the principality. At the time of the Roman invasion Monmouthshire was inhabited by the Silures. It was formerly called Wentset and Wents-land, and by the Britons Gwent, from an ancient city of that name. The present name is derived from the county-town. The British name was Mongwy, so called from its peninsular situation on the rivers Mon and Wye, or the mouth of the Mon (Monnow). It was originally a county of Wales, and once obtained considerable celebrity against the Roman and Saxon invaders. It sometimes formed a separate district under the name of Gevent, and at others was comprehended in Morganoc, or the kingdom of Glamorgan. When Henry VIII. abolished the government of lords marchers of Wales, and divided Wales into twelve counties, he included this county in England. 'A happy change,' says Mr. Coxe, 'from the oppression of feudal tyranny, to the just and equal administration of English laws.'

Monmouthshire is situated on the north shore of the Bristol Channel, or Severn Sea; and is bounded on the west by the river Rumney, which separates it from Glamorganshire; on the north by small brooks and land-marks, and by the rivers Usk and Monnow, which separate it from the counties of Brecknock and Hereford; on the east by Gloucestershire, from which it is separated by the river Wye, from Redbrook to the Severn. 'The extreme points of the county,' says Mr. Hassell, whose Agricultural Survey is here quoted, 'taken east, west, north, and south, are from lat. $52^{\circ} 22'$ to $54^{\circ} 0'$, and from long. $2^{\circ} 41'$ to $3^{\circ} 19'$ W. from Greenwich.' The superficial contents, according to a map of the county published by C. Smith of London in 1801, amount to 316,800 acres; the length being thirty-three miles from north to south, and the breadth from east to west twenty-six miles. The county is divided into six hundreds and seven towns. It is in the diocese of Llandaff, except six parishes, four being in the diocese of Hereford, and two in that of St. David's; and in the province of Canterbury.

The climate of this county is mild in the vales and southern parts, but gradually colder, ascending the hills towards Breconshire, where the snows sometimes remain on the ground till a late period of the spring. The general humidity of the western districts of the kingdom is felt in this county, where the rains are of long continuance. The great estuary of the Severn attracts the clouds of the Western Ocean, and causes torrents of rain to fall on its north and south shores, much more frequently than on the inland parts of Wales, and the West of England. The soil of this county is thus described by the Agricultural Survey: that ridge of land in the hundred of Wentloog, extending from Rumney Bridge to Newport, consists of clay, loam, and gray soil; the clay being for the most part towards the west end of the ridge, the loam along its south and middle, and the gray soil to the northern confines of it, but not nearly of equal extent with the loam, the latter extending itself along the Rumney to Machen and Bedwas, and up the vale from Tredegar to Risca. The sub-

stratum of these soils is rock or rubble, except in a few places, where the clay is deep. Beds of limestone also occur in several parts, which afford an ample supply of manure to the tillers of the ground. The soil of the level is for the most part loamy, a mixture of mud, brought down by the influx of the Severn, Wye, Usk, Rumney, and other rivers, and marine sand thrown in by strong tides from the westward. The clays are here as in most other counties. Of Caldicot Level, extending along the coast from the river Usk to Portskewit, the soil is a rich loam, with more or less strength in proportion to the quantity of mud or sand mixed with it. The substratum is limestone in part, and a brown or gray rock in other parts; not ranging in regular strata, but breaking out here and there in a promiscuous manner. The soil of the Usk hundred is more argillaceous than that of Caldicot, and may be reckoned on the whole a clay district; about Usk, however, and for the space of two miles up the river, the land is sandy and rather light, with a good depth in most parts. There are also some spots of sandy land along the river downwards. The county westward of the Usk maintains the general character of the hundred, being a clay or strong loam. Ragland hundred has soils of various sorts. In the vale district, and for several miles round Ragland, it is a strong clay. The vale part, indeed, is altogether of a strong argillaceous kind, with as little variety as can be expected in a county consisting of undulated lands. Neither high hills nor extensive levels are to be found; but a waving surface every where prevails. The substratum consists mostly of rubble and detached stones, except in such parts as where beds of clay are found to a great depth. On the hilly ridge from Wobes Newton in the south to Pennal in the north, the soil is loamy, sometimes of a reddish color, sometimes gray, and lying in broken strata without any regular courses of either sort. The substratum is mostly a rubble, with here and there a quarry of tolerable stone for building. The limestone ends to the southward of Tintern Abbey, and is not found again as you travel northward through this district, except a few partial spots near Dingestow. Skenfret hundred borders on Herefordshire, and exhibits more of the agricultural practice of that county than any other district in the county of Monmouth. The vale lands around Monmouth, and skirting the hills to Llangatock, Vionavel, and White Castle, consist mostly of clay soil, with a substratum of rubble; in some parts grit or loose gravel, with a mixture of sand; in others deep clays. The lands about the Wye and Monnow rivers are rich meadows, whenever they lie low enough to receive the overflowing of those rivers whose waters bring down the rich mucilaginous mud of Herefordshire. The hilly part of this hundred, stretching towards the north-west from Rockfield, consists of more light and loamy soil than the vale; the lands are interspersed with woods. The soil of Abergavenny hundred is exceedingly variable; many parts of it consist of a brown loam, sometimes approaching to red; others of a gray loam: and many of the old enclosed farms, and of the wastes adjacent to them,

are of a moist and peaty soil, requiring draining and cultivation. The soil of the hills extending northward from Abergavenny to the confines of Herefordshire, beyond Llanthony Abbey, and eastward to Compston Mountain, consist of a brown or reddish loam, varying in depth according to the situation and steepness of the lands, from five inches to fifteen.

The principal rivers are the Wye, which enters the county two miles above Monmouth, and passing that town and Chepstow falls into the Severn Sea three miles below the latter; the Usk enters the county near Clydach, passes Abergavenny, Usk Caerleon, and Newport, and falls into the Severn Sea three miles below the latter; and the Runney, which forms the western boundary of the county. The most important source of commercial intercourse, until a recent period, was little known in this county. The Monmouthshire Canal, commenced in 1792 and completed in 1798, consists of two branches, which unite at Malpas. This canal commences on the west side of the town of Newport, having a basin connected with the river Usk. Passing between the town and the river, it crosses the Chepstow road, and pursues its route parallel by Pont y Pool to Pontnewydd. The principal produce of this county consists in corn, fine oxen, and sheep.

This county returns four members to parliament, viz. two for the shire, and two for the Borough of Monmouth. The great family of Morgan Tredegar for a long time almost constantly represented this county.

This county has not produced many persons of eminence. Geoffrey of Monmouth, whose proper name was Geoffery ap Arthur, was, as is thought, a native of Monmouth. He was a learned monk of the Benedictine order, and wrote a translation into Latin of a British history, entitled *Brut y Breninodd*, or the *Chronicle of the Kings of Britain*. He lived in the twelfth century. Henry V., king of England, was also born here. The county town, Monmouth, gives the title of earl to the Mordaunt family—Abergavenny gives the title of earl and baron to the Neville family—Chepstow gives the title of baron to the Somerset family—Lathony gives the title of baron to the Buller family—Ragland and Gower the same to the Somersets—and Grosmount the title of viscount to the same.

This county formerly manufactured large quantities of flannel and narrow cloth; but the quantity now made is so inconsiderable as not to be an object among its productions. The manufacture of japan ware was also famous in its day; this also has declined, and is only continued on a very narrow scale at Pontypool and Usk. The iron works are the boast, and certainly, in every point of view, the most important objects of trading consideration in Monmouthshire. The attention of the county was first excited to this lucrative branch of manufacture in the reign of queen Elizabeth; and from that period, considered by many the time of their origin, the iron business of this district, and in the adjacent one of Glamorganshire, made a rapid progress; and much surprise had been expressed why they should have been so long

neglected. This surprise, indeed, may almost rise into wonder, when it is recollected that iron was manufactured in this part of the island at an epoch beyond the reach of history. Large heaps of cinders, or slag, have often been discovered, evidently the refuse of Roman or British bloomeries, the process in which was the ancient method of fusing iron. The iron trade again declined, after its revival in the time of Elizabeth, from a variety of causes. The troubles in the reign of Charles I., and the changes which took place in point of property, occasioned an alteration in the genius of the people: agriculture was more attended to; the lands were cleared; the forests were neglected. Mr. Coxe, who wrote in the year 1801, says 'that about forty years ago a sudden renewal of the works took place, occasioned by the discovery that pit-coal would form a useful substitute for charcoal in the making of pig-iron; and its utility was further extended to the manufacturing of bar-iron. The local advantages of this county, in these respects, are peculiarly great, as the district abounds in iron ore, coal, lime, numerous streams of water, and every requisite proper for this branch of business. These have been powerfully aided by the mechanical powers, the use of the steam-engine, the improvement in hydraulic machinery, and the adoption of rollers instead of forge hammers, called the puddling process, by which bar-iron is formed with a degree of despatch and exactness previously unknown. From this occurrence of circumstances, the success has been no less rapid than extraordinary. Fifteen years ago the weekly quantity of pig-iron made in this part of Monmouthshire, and in the contiguous district of Glamorganshire, did not exceed sixty tons; at present it scarcely falls short of 600. At that period no bar-iron was manufactured, but now the quantity amounts weekly to more than 300 tons. The works are rapidly increasing in extent and importance, and appear likely to surpass the other iron manufactures throughout the kingdom.'

MONNET (Anthony Grimoald), a French chemist of eminence, and inspector-general of mines, was born of low parentage, in Auvergne, in 1734. He settled as an apothecary at Rouen, but, becoming known as a superior chemist, he removed to Paris, and obtained in 1774, through the patronage of Malesherbes, the place of inspector-general of mines. He now prepared, in conjunction with Guettard, a mineralogical atlas of France, and was one of the few chemical philosophers who rejected and opposed the theories of Lavoisier. Deprived of office at the Revolution, he passed the latter part of his life in retirement, and died at Paris in 1817. He wrote also *Memoire Historique et Politique sur les Mines de France*, 1790, 8vo.; *Demonstration de la Fausseté des Principes des Nouveaux Chimistes*, 1798, 8vo.; besides a great number of analyses and memoirs in the *Journal de Physique*, &c.

MONNOYE (Bernard de la), an eminent French writer, born at Dijon in 1641. He was a man of great learning, and gained some of the first prizes instituted by the French academy,

till he discontinued to write for them at their own solicitation; a circumstance which reflects the highest honor on him. He was equally skilful in Latin and French poetry, and Menage and Bayle bestowed the highest encomiums on his Latin poetry. His Greek and Italian poems are likewise very good. He had also a very accurate and extensive knowledge of the languages; He wrote Remarks on the Menagiana; in the last edition of which, in 4 vols. 12mo, printed in 1715, are several pieces of his poetry, and a curious dissertation on the book De Tribus Impostoribus. His Dissertation on Pomponius Lætus is inserted in Baillet's Jugemens des Scavans, in 1722, with remarks and corrections by La Monnoye. He also embellished the Anti-Baillet of Menage with many correctious and notes. He was of great service to the republic of letters, not only by productions of his own, but by freely assisting upon all occasions the learned of his time. He favored Bayle with many curious particulars for his Dictionary, and was highly applauded by him. He died in Paris, October 15th, 1728, in his eighty-eighth year. Mr. De Sallinger published at the Hague a Collection of his Poems, with his eulogium. He also left behind him a Collection of Letters, mostly critical; several curious Dissertations; 300 Select Epigrams from Martial, and other poets, in French verse; and several other works in prose and verse, in French, Latin, and Greek.

MONNOYER (John Baptist), 'one of the greatest masters,' according to Mr. Walpole, 'that have appeared in flower painting. They are not so exquisitely finished as Van Huysum's, but his coloring and composition are in a bolder style.' He was born at Lisle in 1635; and educated at Antwerp. Going to Paris in 1663, he was received into the academy with applause; was employed at Versailles, Trianon, Marly, and Meudon; and painted in the hotel de Bretonvilliers at Paris, &c. The duke of Montagu brought him to England, where many of his pieces are to be seen at Montagu House, Hampton Court, and Kensington. But his most curious work is a looking-glass at Kensington Palace, which he adorned with flowers for queen Mary II., who honored him with her presence nearly the whole time he was busied in the performance. He went several times to France, where his daughter had married a French painter. He died in Pall-mall in 1699.

MONOCEROS, unicorn, in astronomy, a southern constellation formed by Hevelius, containing in his catalogue nineteen stars, and in the Britannic catalogue thirty-one.

MONOCEROS, in ichthyology. See MONODON.

The MONOCHORD is used as well in the natural as in tempered scales. Originally it had, as its name implies, only one string; but it is better constructed with two, as we have, by means of this additional string, an opportunity of judging of the harmony of two tempered notes in every possible variety of temperament. See TEMPERAMENT and TONE. It consists of a brass rule placed upon a sound-board, and accurately divided into different scales, according to the purposes for which it is chiefly intended. Above this rule the strings are to be stretched

over two fixed bridges, between which there is a moveable fret, so contrived as to divide at pleasure one of the strings into the same proportional parts as are engraved upon the scales beneath. The figure of the instrument, the manner of striking the strings so as to produce the sound, as likewise the construction of the moveable bridge, may be varied at pleasure according to the wish and ingenuity of the artist. But with the assistance of such an instrument, accurately constructed, any person with a good ear may be enabled to tune a keyed instrument with sufficient precision to answer every practicable purpose. See TUNING. The curious reader, who may wish for further information respecting the construction and use of monochords, will be highly gratified in perusing the appendix of Mr. Atwood's Treatise on Rectilinear Motion, and Mr. Jones's ingenious and entertaining observations on the scale of music, monochord, &c., in his Physiological Disquisitions.

MONOCULAR, *adj.* } Gr. *μῆνος*, one, and
MONOC'ULOUS. } *oculus*. One-eyed;
having only one eye.

He was well served who, going to cut down an ancient white hawthorn tree, which, because she budded before others, might be an occasion of superstition, had some of the prickles flew into his eye, and made him *monocular*. *Hovel.*

Those of China repute the rest of the world *monoculous*. *Glanville's Scep sis.*

MONOCULUS, in entomology, a genus of insects of the order aptera. Its body is short, of a roundish figure, and covered with a firm crustaceous skin; the fore legs are ramose, and serve for leaping and swimming; it has but one eye, which is large and composed of three smaller ones. Of this genus, many of which have been reckoned among the microscopic animals, authors enumerate a great number of species. The name monocus has been given to this genus, as consisting of individuals which apparently have but one eye: and, from the manner in which they proceed forward in the water by leaping, they have also been called water fleas. The branching antennæ serve them instead of oars, the legs being seldom used for swimming. The tail forked in some species, in others simple, serves them for a rudder. Their color varies from white to green, and to red, more or less deep, doubtless in a ratio to the fragments of the vegetables on which they feed. The red tincture they sometimes give to the water has made some think that the water had turned to blood. Too weak to be carnivorous, they fall a prey to other aquatic insects, even to the polypi. Their body, compact and hard, is so transparent that in some the eggs with which the abdomen is filled are discernible. The water parrot and the shell monocus are remarkable. This latter is provided with a bivalvular shell, within which he shuts himself up, if drawn out of the water. The shell opens underneath, the insect puts forth its antennæ, by means of which it swims very expeditiously in various directions, seeking a solid body to adhere to, and then it is it uses its feet in walking, by stretching them out through the aperture of its shell. 'I preserved a pair of these insects,' says Mr. Barbut, 'in a

small glass tumbler, the one male, the other female, having a bag filled with eggs affixed on each side the abdomen. In the space of fourteen days the increase was astonishing: it would have been impossible to have taken a single drop of water out of the glass, without taking with it either the larva or a young monocolus. I again repeated the experiment, by selecting another pair; and at the expiration of the last fourteen days my surprise was increased beyond measure. The contents of the glass appeared a mass of quick-moving animated matter; and being diversified by colors of red, green, ash-color, white, &c., afforded, with the assistance of the magnifier, considerable entertainment.

M. quadricornis, the four-horned monocolus, a very small species, about half a line in length, and of an ashen-gray color. From the head arise four antennæ, two forwards and two backwards; all furnished with a few hairs, which give them the figure of a branch. Between the antennæ, on the fore part of the head, is situated a single eye. From the head to the tail the body goes down, decreasing in shape like a pear; and is composed of seven or eight rings, which grow continually more straitened. The tail is long, divided into two; each division giving rise outwardly to three or four bristly hairs. The animal carries its eggs on the two sides of its tail, in the form of two yellowish parcels filled with small grains, and which, taken together, nearly equal the insect in bigness. This minute insect is found in standing pools. A number of them being kept in a bottle of water, some will be seen loaded with their eggs, and after a while depositing the two parcels, either jointly or separately.

MONODON, in ichthyology, a genus of fishes belonging to the order of cete; the characters of which are these: there are two very long, straight, and spirally twisted teeth, which stick out from the upper jaw; and the spiracle, or breathing hole, is situated on the anterior part of the skull. There is but one species:—

M. monoceros, the horned narwhal, sometimes grows to twenty-five feet in length, exclusive of the horn, or, as some authors say, to forty, or even sixty feet long, and twelve broad; but the usual size is from sixteen to twenty. It is particularly noted for its horn or horns. Of these there are always two in young animals; though the old ones have generally but one, sometimes none. From the circumstance of only one tooth being usually found, the animal has acquired the name of unicorn fish, or sea unicorn. They inhabit the northern seas, from Norway to within the Arctic Circle: they are plentiful in Davis's Straits and the north of Greenland; where the natives, for want of wood, make rafters of the horns. From the tooth or horn may be distilled a very strong sal volatile: the scrapings are esteemed alexipharmic, and were used of old in malignant fevers, and against the bites of serpents. The use of it to the animal seems to be chiefly as a weapon of offence, and a very powerful one it appears to be: there are many instances of its having been found in the bottom of ships which returned from the north seas, probably owing to the animal's mistaking the ship for a

whale, and attacking it with such fury as not to be able to get out the weapon from the wood. It may also serve as an instrument to loosen and disengage from the rocks or bottom of the sea the sea plants on which it feeds. These fishes swim swiftly, and can only be struck when numbers happen to be found together, and obstruct their own course with their horns. Their skin is white, with black spots on the back, and has a great quantity of blubber underneath. The tooth of this animal was anciently imposed upon the world as the horn of a unicorn, and sold at a very high price. There is a magnificent throne made of this species of ivory for the Danish monarchs, which is still preserved in the castle at Rosenberg. The price of this material was superior to gold.

MONODY, *n. s.* Fr. *monodie*; Gr. *μονωδία*. A poem sung by one person, not in dialogue: or see below.

Monody, compounded of *μνος*, solus, and *ωδη*, a song, in the ancient poetry, is a kind of mournful song or ditty sung by a person alone, to utter his grief.

Dr. A. Rees.

MONODY, from *μνος*, alone, and *αδω*, I sing, was, in ancient poetry, a mournful kind of song, sung by a person all alone, to give vent to his grief.

MONOECIA, from *μνος*, alone, and *οικια*, a house; the twenty-first class in Linnæus's sexual method. See BOTANY.

MONOGAMY, *n. s.* } Fr. *monogamie*; Gr
 ΜΟΝΟΓΑΜΙΑ. } *μνος* and *γαμος*, marriage. The marriage of one wife: one who disallows polygamy, or second marriages.

Monogamy is the state or condition of those who have only married once, or are restrained to a single wife.

Dr. Rees.

MONOGYNIA, from *μνος*, alone, and *γυνη*, a woman, the first order in the first thirteen classes of Linnæus's sexual method; consisting of plants which, besides their agreement in their classic character, generally derived from the number of their stamina, have only one style, or female organ. See BOTANY.

MONOLOGUE, *n. s.* Fr. *monologue*; Gr. *μόνος* and *λόγος*. A scene in which a person of the drama speaks by himself; a soliloquy.

He gives you an account of himself, and of his returning from the country, in *monologue*; to which unnatural way of narration Terence is subject in all his plays.

Dryden.

MONONGAHELA, a river of the United States, which rises at the foot of Laurel Mountain in Virginia; thence meanders north by east into Pennsylvania; thence winding north by west separates Fayette and Westmoreland from Washington County, and, passing into Alleghany County, joins the Alleghany at Pittsburg, and forms the Ohio. See OHIO. About fifteen miles from its mouth it receives the Youghiogany from the south-east. It is about 220 miles long from its source to its mouth, and 300 yards broad for ninety-five miles.

MONOPHYSITES, from *μνος*, alone, and *φυσικς*, nature, a general name given to those churches in the Levant who own only one nature

in Jesus Christ; and who maintain that the divine and human nature of Christ were so united as to form only one nature, yet without any change, confusion, or mixture of the two natures. The monophysites, however, properly so called, are the followers of Severus, a learned monk of Palestine, who was created patriarch of Antioch in 513, and of Petrus Fullensis. They were encouraged by the emperor Anastasius, but depressed by Justin and succeeding emperors. However, this sect was restored by Jacob Baradaeus, an obscure monk, insomuch, that when he died bishop of Edessa A. D. 588, he left it in a most flourishing state in Syria, Mesopotamia, Armenia, Egypt, Nubia, Abyssinia, and other countries. The laborious efforts of Jacob were seconded in Egypt and the adjacent countries by Theodosius bishop of Alexandria; and he became so famous, that all the monophysites of the east considered him as their second founder, and are called Jacobites, in honor of their new chief. The monophysites are divided into two sects or parties, the one African, the other Asiatic: at the head of the latter is the patriarch of Antioch, who resides for the most part in the monastery of St. Ananias, near the city of Merdin: the former are under the jurisdiction of the patriarch of Alexandria, who generally resides at Grand Cairo, and are subdivided into Copts and Abyssinians. From the fifteenth century downwards, all the patriarchs of the monophysites have taken the name of Ignatius, to show that they are the lineal successors of Ignatius, bishop of Antioch in the first century, and consequently the lawful patriarchs of Antioch. In the seventeenth century, a small body of the monophysites in Asia abandoned for some time the doctrine and institution of their ancestors, and embraced the communion of Rome: but the African monophysites, notwithstanding that poverty and ignorance which exposed them to the seductions of sophistry and gain, stood firm in their principles, and made an obstinate resistance to the promises, presents, and attempts employed by the papal missionaries to bring them under the Roman yoke; and, in the eighteenth century, those of Asia and Africa have persisted in their refusal to enter the communion of the Romish church, notwithstanding the earnest entreaties and alluring offers that have been made from time to time by the pope's legates, to conquer their inflexible constancy.

MONOPOLI, a well built town of Naples, in the Terra di Bari, on the Adriatic. It contains a fine cathedral, a number of other churches, and has 15,600 inhabitants. Its manufactures are hempen and other stuffs; and its trade in these articles, wine and cloves. Six miles off are the remains of the ancient Ægnotia, and several curious subterranean villages in the neighbourhood.

MONOPOLY, *n. s.* } Fren. *monopole*; Gr.
 MONOPOLIST, } *μονος* and *πωλεω*, to
 MONOPOLISE, *v. a.* } sell. The sole privilege of sale: exclusive right of market: it is commonly used for an usurped privilege or advantage of this kind: monopolist is one who obtains this privilege in any way: to monopolise is to engross the sole power or privilege of sale.

If I had a *monopoly* on't they would have part on't.

Shakspeare.

How could he answer it, should the state think fit, To question a *monopoly* of wit?

Cowley.

One of the most oppressive *monopolies* imaginable; all others can concern only something without us, but this fastens upon our nature, yea upon our reason.

Government of the Tongue.

Shakspeare rather writ happily than knowingly and justly; and Jonson, who, by studying Horace, had been acquainted with the rules, yet seemed to envy posterity that knowledge, and to make a *monopoly* of his learning.

Dryden's Juvenal.

He has such a prodigious trade, that if there is not some stop put, he will *monopolize*; nobody will sell a yard of drapery, or mercery ware, but himself.

Arbutnot.

It moves me more perhaps than folly ought, When some green heads, as void of wit or thought, Suppose themselves *monopolists* of sense, And wiser men's ability pretence.

Cowper.

A MONOPOLY, in law, is the act of one or more persons making themselves the sole masters of the whole of a commodity, manufacture, and the like, in order to make private advantage of it, by selling it again at a very advanced price: or it is a license or privilege allowed by the king for the sole buying and selling, making, working, or using any thing whatsoever. Monopolies had been carried to an enormous height during the reign of queen Elizabeth; and were heavily complained of by Sir Edward Coke, in the beginning of the reign of king James I.: but were in great measure remedied by statute 21 Jac. I. c. 3, which declares such monopolies to be contrary to law, and void (except as to patents, not exceeding the grant of fourteen years, to the authors of new inventions, and except also patents concerning printing, saltpetre, gunpowder, great ordnance, and shot); and monopolists are punished with the forfeiture of treble damages and double costs, to those whom they attempt to disturb; and if they procure any action, brought against them for these damages, to be stayed by any extrajudicial order, other than of the court wherein it is brought, they incur the penalties of *præmunire*. Combinations also, among victuallers or artificers, to raise the price of provisions, or any commodities, or the rate of labor, are in many cases severely punished by particular statute; and, in general, by statute 2 and 3 Edw. VI. c. 15, with the forfeiture of £10 or twenty days' imprisonment, with an allowance of only bread and water, for the first offence; £20 or the pillory for the second; and £40 for the third, or else the pillory, loss of one ear, and perpetual infamy. In the same manner, by a constitution of the emperor Zeno, all monopolies and combinations to keep up the price of merchandise, provisions, or workmanship, were prohibited, under pain of a forfeiture of goods and perpetual banishment. Dr. Smith's opinion respecting engrossing and forestalling is well known; the popular fear respecting them he compares to the popular terrors and suspicions of witchcraft, and he concludes by observing, that the law which should restore entire freedom to the inland trade of corn would probably prove as effectual to put an end to the popular fears of engrossing and forestalling, as the law which put an end to all

prosecutions for witchcraft, destroyed the fear and suspicion of it, by taking away the great cause which encouraged and supported them.

'If,' says Dr. Smith, 'a merchant ever buys up corn, either going to a particular market, or in a particular market, in order to sell it again soon after in the same market, it must be because he judges that the market cannot be so liberally supplied through the whole season as upon that particular occasion, and that the price, therefore, must soon rise. If he judges wrong in this, and if the price does not rise, he not only loses the whole profit of the stock which he employs in this manner, but a part of the stock itself, by the expense and loss which necessarily attend the storing and keeping of corn. He hurts himself, therefore, much more essentially than he can hurt even the particular people whom he may hinder from supplying themselves upon that particular market day, because they may afterwards supply themselves just as cheap upon any other market day. If he judges right, instead of hurting the great body of the people, he renders them a most important service. By making them feel the inconveniences of a dearth somewhat earlier than they otherwise might do, he prevents their feeling them afterwards so severely as they certainly would do, if the cheapness of price encouraged them to consume faster than suited the real scarcity of the season. When the scarcity is real, the best thing that can be done for the people is to divide the inconveniences of it as equally as possible through all the different months, and weeks, and days of the year. The interest of the corn merchant makes him study to do this as exactly as he can: and as no other person can have either the same interest, or the same knowledge, or the same abilities to do it so exactly as he, this most important operation of commerce ought to be trusted entirely to him; or, in other words, the corn trade, so far at least as concerns the supply of the home market, ought to be left perfectly free.'

Indeed, when we consider the numerous and great obstacles and difficulties which must lie in the way of every person who attempts to get into his possession the whole, or the greater part of any commodity; the immense capital or credit which he must possess; the confidence he must place on the integrity of his agents, and the reliance he must have on their skill and judgment; the effect on the price of the commodity, which his attempts to monopolise it must necessarily produce; and the great probability that he will be compelled to desist from his undertaking long before he has brought it to a close, from an erroneous calculation of his means: it will appear evident that it cannot be the interest of any man to risque his capital in such an absurd and impracticable undertaking. If there should be persons so blind to their own interests as to begin the attempt, their punishment may safely be left to flow from their own measures, as long before they can materially, or even in a trifling degree, injure the public, they will either open their eyes to their own folly, or be incapacitated by their own ruin from proceeding in their enterprise.

MONOPTOTE, *n. s.* Gr. *μόνος* and *πτῶσις*. A noun used only in some one oblique case.

MON'OSTITCH, *n. s.* Gr. *μονόστιχον*. A composition of one verse.

MONOSYLLABLE, *n. s.* } Fr. *monosylla-*
MON'OSYLLABICAL, *adj.* } *be*; Gr. *μόνος* and
MON'OSYLLABLED. } *σύνλλαβη*. A word
of only one syllable; consisting of one syllable.

Nine taylor, if rightly spelled,
Into one man are *monosyllabled*. *Cleveland.*

My name of Ptolemy!

It is so long it asks an hour to write it:

I'll change it into Jove or Mars!

Or any other civil *monosyllabled*,

That will not tire my hand.

Dryden's Cleomenes.

Monosyllable lines, unless artfully managed, are stiff or languishing; but may be beautiful to express melancholy.

Pope.

Poets, although not insensible how much our language was already overstocked with *monosyllables*, yet, to save time and pains, introduced that barbarous custom of abbreviating words, to fit them to the measure of their verses.

Swift.

Monosyllables and words accented on the last syllable, ending with a single consonant preceded by a single vowel, double that consonant, when they take another syllable beginning with a vowel.

Murray.

MONOTHELITES, from *μόνος*, single, and *θελημα*, will, an ancient sect which sprung out of the Eutyrians; thus called, as only allowing of one will in Jesus Christ. The Monothelites had their rise in 630, and had the emperor Heraclius for an adherent: they were the same with the Acephalous Severians. They allowed of two wills in Christ, considered with regard to the two natures; but reduced them to one, by reason of the union of the two natures; thinking it absurd there should be two free wills in one and the same person. They were condemned by the sixth general council in 680, as being supposed to destroy the perfection of the humanity of Jesus Christ, depriving it of will and operation. Their sentiments were afterwards embraced by the Maronites.

MONOTONY, *n. s.* Gr. *μονοτονία*; *μόνος* and *τονος*, sound; Fr. *monotonie*. Uniformity of sound; want of variety in cadence.

I could object to the repetition of the same rhymes within four lines of each other as tiresome to the ear through their *monotony*.

Pope's Letters.

A mechanical attention to these resting-places has perhaps been one cause of *monotony*, by leading the reader to a similar tone at every stop, and a uniform cadence at every period.

Murray.

MONOTROPA, bird's-nest, a genus of the monogynia order, and monandria class of plants: CAL. none; petals ten; and of these the five exterior have a melliferous hollow at the base: CAPS. quinquevalved. In some of the flowers a fifth part of the number is excluded. There are two species. The most remarkable is,

M. hippopithys, a native of Britain and some of the more northerly kingdoms of Europe. It is about five inches high, having no other leaves than oval scales, and terminated with a nodding spike of flowers, which in the seeding state becomes erect: the whole plant is of a pale yellow color, smelling like the primrose, or like beans in blossom. The country people in Sweden give the dried plant to cattle that have a cough.

MONREALE, a charming town of Sicily, about two miles W. S. W. of Palermo : its situation in particular is beautiful, and its cathedral one of the finest specimens extant of the enriched Gothic architecture. Its roof is supported by pillars, and the walls are covered with morasses. Population about 8000. In the vicinity is a well endowed convent.

MONRO (Dr. Alexander), senior, a most eminent physician and anatomist. He showed an early inclination to the study of physic ; and his father, after giving him the best education that Edinburgh afforded, sent him successively to London, Paris, and Leyden. In London he attended the lectures of Messrs. Hawksbee and Whiston on experimental philosophy, and the anatomical demonstrations of Mr. Cheselden. In Paris he attended the hospitals, and the lectures on physic and surgery. In autumn 1718 he went to Leyden, and studied under the great Boerhaave, by whom he was particularly esteemed. On his return to Edinburgh, in autumn 1719, Messrs. Drummond and Macgill, who were then conjunct nominal professors of anatomy to the Surgeon's Company, having resigned in his favor, he began to read public lectures on anatomy, which were the first regular course of lectures on any of the branches of medicine that had ever been read at Edinburgh, and may be considered as the opening of that medical school which has since acquired such great reputation all over Europe. About 1720 his father communicated to the physicians and surgeons at Edinburgh a plan, which he had long formed in his own mind, of having the different branches of physic and surgery regularly taught at Edinburgh ; which was highly approved of by them, and by their interest regular professorships of anatomy and medicine were instituted in the university, of the former of which Dr. Monro was the first professor. But, although he was elected to this professorship in 1721, he was not inducted into the university till the year 1725. From this time he regularly gave a course of lectures on anatomy and surgery, from October to May. A task in which he persevered with the greatest assiduity, and without the least interruption, for nearly forty years ; and so great was the reputation he had acquired, that students flocked to him from the most distant corners of the empire. In 1759 our professor entirely relinquished the anatomical theatre to his son Dr. Alexander, who had returned from abroad, and had assisted him in the course of lectures in 1758. He still, however, rendered his labors useful to mankind, by reading clinical lectures at the hospital. He had the satisfaction to behold that seminary of medical education which his father had planned, and he had begun, frequented yearly by 300 or 400 students : and to see it arrive at a degree of reputation far beyond his most sanguine hopes, being equalled by few, and excelled by none in Europe. He was elected F. R. S. of London, and an honorary member of the Royal Academy of Surgery at Paris. He died July 10th 1767, in the seventieth year of his age. A collection of all his works, properly arranged, corrected, and illustrated with copper plates, has been published

by Dr. Alexander Monro, his son and successor in a splendid 4to volume ; Edinburgh, 1781 ; to which he prefixed a life of the author, by another of his sons.

MONRO (John), M. D., an eminent English physician, born at Greenwich in Kent, but descended of a Scottish family. He was educated in London, and afterwards at St. John's College, Oxford, of which he became a fellow, and from which he received his degree while he was abroad ; for he studied physic at several universities. In 1757 he was appointed joint physician along with his father, to Bridewell and Bethlehem hospitals. He published an excellent answer to Dr. Battie's Treatise on Madness, and died in 1791.

MONS, a fine old fortified town of the Netherlands, the capital of Hainault, stands partly on a hill, and partly in a plain, on the small river Trouille. It is surrounded by an earthen mound and ditch, and is the only strong place between Brussels and the French frontier. It has several squares, and tolerably regular streets. The market place contains the government-house, and the house of the provincial council. The hotel de ville, a large old building, erected in 1716, has a fine steeple, and is situated in a square where the principal streets meet. The church of St. Elizabeth is remarkable as occupying the site of an ancient castle, demolished in 1618, and said to have been founded by Julius Cæsar. The charitable institutions are, a large hospital constructed by Vauban, a foundling hospital, and a workhouse. The public library is extensive : and Mons has woollen, cotton, linen, and lace manufactories of good extent. Its command of coal has led likewise to the establishment of iron foundries, salt works, earthenware, oil, and soap works ; in all of which articles its trade is considerable. It communicates with Paris by the canal of St. Quentin. Mons has frequently experienced the depopulating effects of war. In 1691 it was besieged by Louis XIV. ; when, to prevent its bombardment, the citizens compelled the governor to capitulate. In 1709 it was taken by the duke of Marlborough and prince Eugene, after the battle of Malplaquet. In 1746 it was again taken by marshal Saxe ; and in the wars of the French revolution (1792, 1793, 1794), it was successively taken and retaken by opposing parties. Twenty-three miles E. N. E. of Valenciennes, and thirty-six S. S. W. of Brussels. Population 20,000.

MONS SACER, in ancient geography, a mountain of the Sabines beyond the Anio, to the east of Rome ; whither the people retired once and again to avoid the tyranny of the patricians. From this secession, and the altar of Jupiter Terribilis erected there, the mountain took its name.

MONSELICE, a town of Italy, in the province of Padua, situated on a navigable canal. It is ten miles from the Adige River, and twenty from the Po, and has considerable manufactures of woollen and linen. It has also a brisk trade by its canal with Padua. Population 9000. Ten miles S. S. W. of Padua.

MONSIEUR, *n. s.* Fr. Sometimes a term of reproach for a Frenchman.

A Frenchman his companion ;
An eminent *monieur*, that, it seems, much loves
A Gallian girl. *Shakspeare. Cymbeline.*

MONSIGNORI (Francesco), a celebrated painter, born at Verona in 1455. He studied under Andrea Mantegna, by whose precepts he acquired a good taste for historical composition, and an excellent style of portrait painting. His talents procured him the patronage of the marquis of Mantua, who allowed him a large pension, and employed him several years. He was accustomed to amuse himself often in observing Monsignori at work ; and, one day taking particular notice of a picture representing the death of Sebastian, the marquis acknowledged every part of the painting to be elegant, but objected that the expression of the figure was not natural, as neither in the look, the limbs, or attitude, appeared the agony of a person in such a situation, bound with cords, and pierced with arrows. The painter asserted the truth of his figure, and endeavoured to justify it, by affirming, that he had taken every part from nature, having engaged a porter for his model, who was tied in the posture described in the painting. The marquis desired to see the porter in the proper position the next day, that it might be determined which of them judged best, according to truth and nature. As soon, therefore, as the marquis was informed that the apparatus was ready, he rushed suddenly into the room, having in his hand a cross-bow fixed for execution ; and, with a countenance distorted with fury, cried aloud to the porter, 'Traitor ! prepare for death !—you shall die instantly !'—As he approached, the porter, terrified, struggled, and strained every muscle, joint, and limb, to disengage himself, each line of his face expressing the agony of his mind. 'Now,' said the marquis to the painter, 'compare your two models ; what he was yesterday, while unterrified ; and what he is now, under the dread of execution ; and do you determine which has most of nature, and which expression is most suitable to the situation of Sebastian.' The painter profited by the experiment, confessed the justice of the observation, altered his design, and improved it so much that it was allowed to be the finest of all his performances. Monsignori copied animals with astonishing accuracy, and excelled in perspective. He died in 1519.

MONSOON, *n. s.* Fr. *monson, monçon* ; Arab. *monson*.

The *monsoons* and trade winds are constant and periodical even to the thirtieth degree of latitude all around the globe, and seldom transgress or fall short of those bounds. *Ray.*

Monsoons are shifting trade winds in the East India Ocean, which blow periodically ; some for half a year one way, others but for three months, and then shift and blow for six or three months directly contrary. *Harris.*

The *monsoons* in the Indian Ocean may be reduced to two, one on the north and another on the south side of the equator, which extend from Africa to the longitude of New Holland and the east coast of China, and which suffer partial changes in particular places from the situation and inflection of the neighbouring countries. *Thompson.*

MONSOONS. In the Indian ocean these winds are partly general, and blow all the year round the same way, as in the Ethiopic Ocean ; and partly periodical, i. e. half the year blow one way, and the other half nearly on the opposite points : and these points and times of shifting differ in different parts of this ocean. These latter are what we call monsoons. The shifting of these monsoons is not all at once ; in some places the time of the change is attended with calms, in others with variable winds, and particularly those of China, at ceasing to be westerly, are very apt to be tempestuous ; and such is their violence that they seem to be of the nature of the West India hurricanes, and render the navigation of those seas very unsafe. These tempests the seamen call the breaking up of the monsoons. Monsoons take their name from an ancient pilot, who first crossed the Indian sea by means hereof : but others derive the name from a Portuguese word, signifying motion or change of wind and sea. Lucretius and Apollonius mention annual winds which arise every year, *etesia flabria*, which seem to be the same with what in the East Indies we now call monsoons. See **WIND**.

MONSTER, *n. s. & v. a.* } French *monstre*,
MONSTROSITY, *n. s.* } *monstreux* ; Latin
MONSTROUSITY, } *monstruosus*. An
MONSTROUS, *adj. & adv.* } unnatural produc-
MONSTROUSLY, *adv.* } tion ; something
MONSTROUSNESS, *n. s.* } physically or morally deformed, or unshapely, strange or wicked : Shakspeare uses it as a verb for to disorder, or put out of the common order of things : *monstrosity* and *monstrousity* are the state of being monstrous : *monstrous* is, strange ; irregular ; enormous ; unusually hateful or shocking : as an adverb it is generally used in banter or reproach. The other derivatives explain themselves.

If she live long,
And, in the end, meet the old course of death,
Women will all turn *monsters*.

Shakspeare. King Lear.

Her offence
Must be of such unnatural degree

That *monsters* it. *Id.*

This is the *monstrousity* in love, that the will is infinite, and the execution confined. *Shakspeare.*

Is it not *monstrous* that this player here,
But in a fiction, in a dream of passion,
Could force his soul so to his conceit,
That, from her working, all his visage waned ?

Id.

He walks ;
And that self-chain about his neck,
Which he forswore most *monstrously* to have.

Id.

See the *monstrousness* of man,
When he looks out in an ungrateful shape ! *Id.*
Such a tacit league is against such routs and shoals of people, as have utterly degenerated from nature, as have in their very body and frame of estate a *monstrosity*. *Bacon.*

This was an invention given out by the Spaniards to save the *monstrous* scorn their nation received.

Id.

Oil of vitriol and petroleum, a dram of each, turn into a mouldy substance, there residing a fair cloud in the bottom, and a *monstrous* thick oil on the top.

Id.

Methinks heroic poesie till now,
Like some fantastic fairy land did shew,
Gods, devils, nymphs, witches, and giants race,
And all but man in man's chief work had place.
Then, like some worthy knight with sacred arms,
Dost drive the *monster* thence, and end the charms.

Cowley.

In our bodies we find weakness, and imperfection,
sometimes crookedness, sometimes *monstrosity*; filthiness,
and weariness, infinite number of diseases, and
an uncertain cure.

Jer. Taylor.

Nature there perverse,
Brought forth all *monstrous*, all prodigious things,
Hydras, and gorgons, and chimeras dire. *Milton.*

This was the cause of that *monstrous* infidelity in
the Israelites, which baffled all the methods which
God used to persuade and convert them. *Barrow.*

These truths with his example you disprove,
Who with his wife is *monstrously* in love. *Dryden.*

Add, that the rich have still a gibe in store,
And will be *monstrous* witty on the poor. *Id.*

She was easily put off the hooks, and *monstrous*
hard to be pleased again. *L'Estrange.*

It ought to be determined whether *monsters* be
really a distinct species; we find, that some of these
monstrous productions have none of those qualities
that accompany the essence of that species from
whence they derive. *Locke.*

Every thing that exists has its particular constitution;
and yet some *monstrous* productions have few
of those qualities which accompany the essence of
that species from whence they derive their originals. *Id.*

Tiberius was bad enough in his youth, but superlatively
and *monstrously* so in his old age.

South's Sermons.

We read of *monstrous* births, but we often see a
greater *monstrosity* in education; thus, when a father
has begot a man, he trains him up into a beast. *Id.*

By the same law *monstrosity* could not incapacitate
from marriage, witness the case of hermaphrodites.

Arbutnot and Pope.

All human virtue, to its latest breath,
Finds envy never conquered but by death;
The great Alcides, every labour past,
Had still this *monster* to subdue at last. *Pope.*

No *monstrous* height, or breadth, or length appear,
The whole at once is bold and regular. *Id.*

A *MONSTER* is a birth or production of a living
being, degenerating from the proper and usual
disposition of parts in the species to which it
belongs: as, when there are too many members,
or too few; or some of them are extravagantly
out of proportion, either on the side of defect or
excess. Aristotle defines a *monster* to be a defect
of nature, when, acting towards some end, it
cannot attend to it, from some of its principles
being corrupted. *Monsters* do not propagate
their kind; for which reason some rank mules
among the number of *monsters*, as also hermaphrodites.
But Buffon and other naturalists affirm that mules do
sometimes propagate. See MIDWIFERY.

MONSTER is also used for an animal enormous
for bulk; such as the elephant among terrestrial
quadrupeds, and the shark and the whale among
sea animals; for other animals remarkable for
fierceness and cruelty; and for animals of an
extraordinary species, arising from the copulation
of one animal with another of a different
genus.

MONSTERS, VEGETABLE. *Monsters* are more
common in the vegetable than in the animal
kingdom, because the different juices are more
easily deranged and confounded together, and
because the methods of propagation are more
numerous. Leaves are often seen, from the internal
parts of which other leaves spring forth; and it is
not uncommon to see flowers of the ranunculus,
from the middle of which issues a stalk bearing
another flower. M. Bonnet informs us that, in certain
warm and rainy years, he has frequently met with
monsters of this kind in rose-trees. He saw a rose,
from the centre of which issued a square stalk of a
whitish color, tender, and without prickles, which at
its top bore two flower-buds opposite to each other,
and totally destitute of a calyx; a little above the
buds issued a petal of a very irregular shape. Upon
the prickly stalk, which supported the rose, a leaf
was observed which had the shape of trefoil, together
with a broad flat pedicle. He also mentions some
monstrous productions which have been found in
fruits with kernels, analogous in their nature to
those which occur in the flowers of the ranunculus
and of the rose-tree. He has seen a pear, from the
eye of which issued a tuft of thirteen to fourteen
leaves, very well shaped, and many of them of the
natural size. He has seen another pear which gave
rise to a ligneous and knotty stalk, on which grew
another pear somewhat larger than the first. The
lilium album polyanthos, observed some years ago
at Breslaw, which bore on its top a bundle of
flowers, consisting of 102 lilies, all of the common
shape, is well known. These vegetable productions
which are so extraordinary, and so contrary to the
common course of things, nevertheless present
deviations subject to particular laws, and reducible
to certain principles, by distinguishing such as are
perpetuated either by seed or by transplanting, from
those which are only accidental and passing. *Monstrosities*
which are perpetuated exist in the original
organisation of the seed of the plant, such as marked
or curled leaves, &c. The word *monster* is more
properly applied to those irregularities in plants
which arise from frequent transplantation, and from
a particular culture, such as double flowers, &c.:
but those *monstrosities* which are not perpetuated,
and which arise from the accidental and transient
causes deranging the primitive organisation of the
plant, when it comes to be unfolded, from a
superfluity or scarcity of juices, a deprivation of
the vessels contributing to nutrition, the sting of
insects, or contusions and natural grafts, retain
also the name of *monsters*. Of this kind are knobs
or swellings, stunting, gall-nuts, certain streaks,
and other similar defects. One species may be
compared with another; but a *monster* can only be
put in comparison with an individual of the species
from which it comes. See the Observations Botaniques
of M. Schlotterbec, of Basil, concerning *monsters*
in plants.

MONTANT, n. s. Fr. *montant*. A term in fencing.

Vat be all you, one, two, tree, four, come for?
—To see thee fight, to see thee pass thy puncto, thy
stock, thy traverse, thy distance, thy *montant*.

Shakspeare.

MONSTIER, MOUTIER, or MOUSTIER, a town of France in the department of Mont Blanc, cidevant Savoy, near the conflux of the Isere and Doron. It was anciently called Forum Claudii, next Monasterium Centonium, from a monastery; hence Monstier. It has fine salt-springs and salt-works. It lies twenty-seven miles E. S. E. of Chambery, forty-five south-east of Geneva, and sixty-two north-west of Turin. Long. 6° 23' E., lat. 45° 30' N.

MONSTIER EN DER, a town of France, in the department of Upper Marne, twelve miles from St. Dizier.

MONSTRELET (Enguerrand de), a famous chronicler of the fifteenth century, was born at, and governor of, Cambrai. His History of his Own Times, from 1400 to 1467, was finished, as to the last fifteen years, by another hand. It contains a copious and faithful narrative of the contentions of the houses of Orleans and Burgundy, the capture of Normandy and Paris by the English, their expulsion, &c., and was published under the title of *Chronique d'Enguerrand de Monstrelet, Gentilhomme, jadis demeurant à Cambrai, en Cambresis*. The best edition is that of Paris, 1572, 2 vols. folio. He died in 1453.

MONTAGUE (Charles), earl of Halifax, was born in 1661. He was educated at Westminster and Cambridge, and quickly made great progress in learning. In 1685 he wrote a poem on the death of king Charles II., in which he displayed his genius to such advantage that he was invited to London by the earl of Dorset; and, upon his coming thither, he increased his fame, by a piece which he wrote in conjunction with Prior, published at London in 1687, entitled *The Hind and the Panther transversed to the Story of the Country Mouse and the City Mouse*. Upon the abdication of king James II. he was chosen a member of the convention, and recommended by the earl of Dorset to king William, who allowed him a pension of £500 a-year. Having given proofs of his abilities in the house of commons, he was made a commissioner of the treasury, and soon after chancellor of the exchequer. In 1698 he was appointed first commissioner of the treasury; and, in 1699, was created baron Halifax. In 1701. the house of commons impeached him of six articles, which were dismissed by the house of lords. He was attacked again in 1702, but without success. In 1705 he wrote *An Answer to Mr. Bromley's Speech* in relation to the occasional Conformity Bill. In 1706 he was a commissioner for the union with Scotland; and, upon passing the bill for the naturalisation of the house of Hanover, and for security of the Protestant succession, he was appointed to carry that act to Hanover. Upon the death of queen Anne, when king George I. had taken possession of his throne, his lordship was appointed first commissioner of the treasury, and created earl of Halifax and K. G. He died in 1715. His lordship wrote several other pieces, which, with some of his speeches, were published together in 1716, in 1 vol. 8vo.

MONTAGUE (Edward), earl of Sandwich, an illustrious Englishman, who, from the age of nineteen, united the qualifications of general, ad-

miral, and statesman. He acted early against Charles I.; he persuaded Cromwell, whom it is said he admired, to take the crown; and he was zealous for the restoration of Charles II. Upon general Monk's coming into England, he sailed with the fleet to Holland, and soon after he convoyed king Charles II. to England. For this service he was created knight of the garter, baron Montague, viscount Hinchinbrooke, and earl of Sandwich; made a member of the privy council, master of the king's wardrobe, admiral of the Narrow Seas, and lieutenant admiral to the duke of York. He performed some very essential services in the Dutch wars, and lost his life by refusing to quit his ship, after it was on fire. His body was interred with great state in Henry VII.'s chapel. His Lordship's writings are, 1. *The Art of Metals*, translated from the Spanish of Alvaro Alonzo Barba, 8vo. 2. Several letters during his embassy to Spain, published with Arlington's letters. 3. A letter to secretary Thurloe. 4. Original letters and negociations of Sir Richard Fanshawe, the earl of Sandwich the earl of Sunderland, and Sir William Godolphin, wherein divers matters between England, Spain, and Portugal, from 1663 to 1678, are set in a clear light; 2 vols. 8vo.

MONTAGUE (lady Mary Wortley), was eldest daughter of Evelyn, duke of Kingston, and the lady Mary Fielding, daughter of William, earl of Denbigh. She was born at Thoresby in Nottinghamshire, about 1690. Under bishop Burnet she acquired considerable knowledge of the Greek, Latin, and French languages. In 1712 she married Edward Wortley Montague, who was sent ambassador to the Porte in 1716, whether she accompanied him. Here we find, from her correspondence, that she had added an acquaintance with the German, Italian, and Turkish languages to her other acquirements. After her return she introduced inoculation for the small-pox into this country, as she had seen it practised with success in the east. Her wit and literature led her to form intimacies with all the eminent poets and scholars of her brilliant era. Her health declining, in 1739, she went to Italy, where she remained till 1761, when her husband died. She then returned to England; but she survived him only till the 21st of August, 1762. In 1763 a collection of her letters was published, which had been surreptitiously obtained; but her grandson, the marquis of Bute, gave her entire works to the public, in 5 vols. 12mo. containing her *Life*, *Letters*, *Translation of the Enchiridion of Epictetus*, *Poems*, and *Essays*.

MONTAGUE (Edward Wortley), commonly known as the Turk, was the son of the preceding. From Westminster school, where he was placed for education, he ran away thrice. He exchanged clothes with a chimney-sweeper, and followed for some time that sooty occupation. He next joined a fisherman, and cried flounders at Rotherhithe. He then sailed as a cabin-boy to Spain; where he had no sooner arrived than he ran away from the vessel, and hired himself to a driver of mules. After thus vagabondising it for some time, he was discovered by the consul, who returned him to his friends in England. They received him with joy, and a private tutor

was employed to recover those rudiments of learning which a life of dissipation and vulgarity might have obliterated. Wortley was sent to the West Indies, where he remained some time; and on his return to England was chosen a member of parliament, and served two successive sessions. His expenses exceeding his income, he became involved in debt, and quitted his native country. Having visited most of the eastern countries, he contracted a partiality for their manners. He drank little wine; a great deal of coffee; wore a long beard; smoked much; and, even whilst at Venice, was habited in the eastern style. He sat cross-legged in the Turkish fashion from choice. With the Hebrew, the Arabic, the Chaldaic, and the Persian languages, he was as well acquainted as with his native tongue. He published several pieces. One on the Rise and Fall of the Roman Empire. Another on the Causes of Earthquakes. He had seraglios of wives; but the lady whom he married in England was a washerwoman, with whom he did not cohabit. When she died without leaving issue to him, being unwilling that his estate should go to the Bute family, he set out for England to marry a young woman already pregnant, whom a friend had provided for him; he died on his journey.

MONTAGUE (Richard), D. D., a learned English prelate, born in Bucks, about 1577, and educated at King's College, Cambridge, of which he became fellow. In 1616 he was made dean of Hereford; and in 1621 published an answer to Selden's History of Tithes. He afterwards engaged in a controversy with the Papists, and published a piece, entitled *Appello Cæsarem*, for which he was summoned before the house of commons, in the first parliament of Charles I., and subjected to £2000 bail. The king, however, made him bishop of Chichester in 1628, and translated him to Norwich in 1638, where he died in 1641. Besides controversial tracts, such as *An Answer to the Gagger of the Protestants*, in 1624, &c.; he wrote several learned works, on the doctrines and discipline of the church.

MONTAGUE (John), fourth earl of Sandwich, born in 1718, studied at Eton, whence he removed to Trinity College, Cambridge. He set out on his travels at about twenty years of age, and visited Sicily, Malta, Turkey, and Egypt, bringing home a valuable collection of antiquities, particularly a marble vase obtained at Athens, which he presented to Trinity College. An account of his Voyage round the Mediterranean, drawn up by himself, with memoirs of his life, by the Rev. J. Cooke, was published after his death, in 1799, 4to.; a second edition appeared in 1807. On his return home he became a lord of the admiralty; and in 1746 was despatched as minister plenipotentiary to the congress of Breda. He was engaged also in negotiating the peace of Aix-la-Chapelle, and on his return to England was made first lord of the admiralty. Though removed in 1751, he twice afterwards held the same office, and died in 1792.

MONTAGUE ISLAND, an island in the North Pacific Ocean, near the west coast of North America, about fifty miles long, and ten broad,

and situated at the west side of the entrance into Prince William's sound. Long. 147° to 148° W., lat. 59° 50' to 60° 30' N.

MONTAIGNE (Michael de), a French gentleman, born in Perigord in 1533. His father educated him with great care, and made him learn Latin as other children learn their mother tongue. His tutors were Nicholas Gronchi, who wrote *De Comitibus Romanorum*; William Guerenti, who wrote on Aristotle; George Buchanan; and Anthony Muret. He was also taught Greek by way of recreation; and was awakened every morning with the sound of music. He was a counsellor in the parliament of Bourdeaux, and afterwards mayor of Bourdeaux. He published his celebrated *Essays* in 1580. He had a great deal of wit and subtlety, but no small share of conceit and vanity. The learned are much divided in their opinions about his works. He died in 1592.

MONTALEMBERT (Marc Rene, marquis de), a French general and mathematician, was born at Angouleme in 1714. At the age of eighteen he entered the army; was at the siege of Kehl in 1733, and at that of Philipsburg in the following year. He afterwards served in Bohemia, and at the peace devoted himself to the study of the exact sciences. He constructed in Anjou and Perigord forges for casting cannon. In the seven years' war he was on the staff of Russian and Swedish armies. In 1761 he announced his celebrated work on Fortification, which the government prevented him from committing to the press for some years. It is entitled *L'Art defensif superieur à l'offensif, par une nouvelle maniere d'employer l'Artillerie, ou la Fortification Perpendiculaire*, Paris, 1793, 11 vols. 4to. He was besides the author of several papers in the *Memoirs of the Academy of Sciences*, and other works. His death took place in 1800.

MONTANINI (Peter), or Petruccio Perugino, an eminent landscape painter, born at Perugia in 1619. At first he was instructed by his uncle Peter Barsotti; but was afterwards placed as a disciple with *Ciro Ferri*. Yet he did not long adhere to the manner of either of these masters, choosing to study under *Salvator Rosa*; whose style he imitated with great success. His landscapes were much admired; the rocks, torrents, and abrupt precipices, were designed with spirit; and his figures had very uncommon correctness, propriety, and elegance. He died in 1689.

MONTANISTS, a sect which sprung up about A. D. 171, in the reign of the emperor Marcus Aurelius. They were so called from their leader, the heresiarch Montanus, a Phrygian by birth; whence they are sometimes styled Phrygians and Cataphrygians. They formed a schism, and set up a society under the direction of those who called themselves prophets. Montanus, in conjunction with Priscilla and Maximilla, was at the head of the sect. These sectaries made no alteration in the creed. They only held, that the Holy Spirit made Montanus his organ for delivering a more perfect form of discipline than what was delivered by the apostles. They refused communion for ever to those who were guilty of notorious crimes, and be

lieved that the bishops had no authority to reconcile them. They held it unlawful to fly in time of persecution. They condemned second marriages, allowed the dissolution of marriage, and observed three lents. The Montanists became separated into two branches; one of which were the disciples of Proclus, and the other of Æschines. The latter are charged with following the heterodoxy of Praxeas and Sabellius concerning the Trinity. See MONTANUS.

MONTANUS, a heretic of the second century, born in Phrygia. He embraced Christianity, in hopes of rising to the dignities of the church. He pretended to inspiration; and gave out that the Holy Ghost had instructed him in several points, which had not been revealed to the apostles. Priscilla and Maximilla, two enthusiastic women of Phrygia, presently became his disciples; and in a short time he had a great number of followers. The bishops of Asia, being assembled, condemned his prophecies, and excommunicated those who dispersed them. Afterwards they wrote an account of what had passed to the western churches, where the pretended prophecies of Montanus and his followers were likewise condemned.

MONTANUS (Benedict Arias), a learned Spanish theologian, born in the diocese of Badajoz, about 1528. He assisted at the council of Trent with great reputation; and his merit and writings recommended him to Philip II. of Spain, who employed him in publishing a new polyglot bible after the Complutensian edition, which was printed under the care of cardinal Ximenes. This bible was printed at Antwerp, whither Montanus went in 1571; and on his return to Spain he refused the bishopric which Philip offered him for his reward, but spent the rest of his days at Seville, where he died about 1598. Montanus had vast erudition, loved solitude, was very laborious, never drank wine, and seldom ate flesh.

MONTANUS (John Baptist), an eminent Italian physician, styled the Galen of his country. He was born at Verona, in 1488; and studied at Padua, where he displeased his father by preferring physic to law; but, though deprived of his assistance, he soon made such progress that he was promoted to the professor's chair at Padua, after having practised physic with great success in several other cities. His fame became so great that he was invited to Paris, Florence, and Vienna, by Francis I., duke Cosmo, and Charles V., but preferred his professorship at Padua; where he died of the stone, in 1551. He wrote many medical and some poetical works.

MONTARGIS, an ancient town of the department of the Loiret in France, and the principal place of a subprefecture of the same name. It has an inferior court of judicature, and a chamber of commerce, and is a post town with 6500 inhabitants. Pleasantly situated near a beautiful forest, at the foot of a mountain, on the river Loing, where it forms a junction with the canals of Briare and Orleans. This town is surrounded with walls, and rather badly built, though its general appearance is pleasing. It was in ancient times a very strong place, and

defended by a good castle; the English besieged it without success in 1427, but in 1431 they took it, and it remained in their possession until 1438. The inhabitants manufacture common cloths, cotton yarn, and leather, and in the suburbs there are some fine paper-mills. A considerable trade is carried on in corn, wine, saffron, wax, honey, wool, leather, iron, and cattle. The church of the Magdalen is remarkable for the beauty of its architecture, and the boldness and loftiness of its pillars. This town is fifty-one miles E. N. E. of Orleans, thirty-nine south of Fontainebleau, and eighty-four south of Paris.

MONTAUBAN, a large and handsome city, the principal place of the department of the Tarn-et-Garonne in France, having a royal court at Toulouse, an inferior court of judicature, a chamber of commerce, a board of trade, societies of arts and sciences, agriculture, and belles lettres, a faculty of theology belonging to the reformed church, a communal college, and a free drawing school. It is a post town with 25,000 inhabitants.

This city stands in a fine situation, on a hill at the foot of which flows the Tarn, dividing the town into several parts, and working a great number of manufacturing establishments for the making of coarse cloth, serge, flannel, silk stockings, soap, pasteboard, and delf ware, brandy distilling, wool spinning, cloth dressing, dyeing, brass founding, tanning, &c. Its appearance is magnificent, its air wholesome, and the suburbs present a most agreeable scene, with pleasant country houses scattered on all sides over a verdant country. It is generally well built, and the streets are extremely clean. The public edifices are respectable, particularly the cathedral, built in 730, and the town-hall; the architecture of the town gates is very fine, and there are two beautiful walks, the Allée de Carmes, and the superb avenue de Coussarde, besides a fine platform, from which, in clear weather, there is a most beautiful view of the Pyrenees, which are more than 150 miles distant.

Montauban was built in 1144, by Alphonso, earl of Toulouse, near the ancient monastery of Mons Albanus. The inhabitants, having embraced the reformed religion, fortified it; it was besieged by Louis XIII. in the year 1622, but without success, and it did not submit till 1629, when its fortifications were soon afterwards destroyed by order of cardinal Richelieu. In the reign of Louis XIV. it was depopulated by the dragonnades, and in 1815 it suffered much from a persecution raised against the protestants by an infuriated and bigotted rabble.

A considerable trade is carried on here in corn, flour, leather, cloth, wool, oil, goose-feathers, drugs, and spices; this place is indeed the mart of several towns of the kingdom, especially for grain. Among the objects worthy of particular notice are the fountain of Grison, and the public library containing 10,000 volumes. It is thirty-nine miles south of Cahors, sixty west of Alby, forty north of Toulouse, and 505 south of Paris; in N. lat. 44°, E. long. from Paris 1°.

MONTBELLIARD, a post town, with 4500 inhabitants, and the chief place of a subprefecture of

the same name, in the department of Doubs, France, having an inferior court of judicature, and a communal college. This town is pleasantly situated in the centre of a valley, covered with meadows, watered by the Halle and the Luzine, and surrounded by hills, woody and planted with vines. It is generally well built, and the streets airy and adorned with fountains, while on an elevated rock stand the ruins of a castle, which in ancient times commanded the town, and from which there is a very fine view of the adjacent country. The walls were rased in 1677 by order of Louis XIV. This is the native place of Cuvier, the celebrated naturalist.

There are manufactures here of clocks, pendulums, watch springs, iron and steel wire for clocks, silk hats, linen, cloth, scythes, agricultural instruments, &c. The inhabitants trade in corn, spices, cheese, &c.; and this place is the centre of considerable commerce with Switzerland. Among the public places may be mentioned the library containing 8000 volumes, the town hall, the church of St. Martin eighty feet long, and fifty broad, the market house, &c. Montbeliard is sixty-four miles north-east of Besançon, thirty-nine east of Vesoul, and 101 E. S. E. of Paris.

MONT BLANC. See **BLANC, MONT.**

MONTBRISON, a small, but ancient town, the principal place of a subprefecture of the same name, in the department of the Loire, France. It is a post town, containing 5000 inhabitants, with an inferior court, a communal college, and a society of agriculture and commerce. Its royal court is at Lyons. It stands in the midst of a fertile plain, commanded by a volcanic rock of a picturesque form, from the top of which the barbarous baron of Adrets forced the catholics, whom he had made prisoners, to precipitate themselves upon the points of the crags, with which the base is environed. It is generally ill-built, and the streets close; but, though not so populous and commercial as several other places in the department, its situation is very advantageous for the establishment of manufactories: the river Vizezy, which descends from the mountains and flows through the town, furnishing at all times of the year a sufficient supply of water for such purposes. In the neighbourhood are some mineral springs of considerable celebrity, and a few remains of Roman antiquities. There are manufactures here of linens, lawns, and cambrics, and a trade is carried on in corn, wool, and cattle.

Among the public institutions and buildings may be mentioned the fine library, the corn market, and the assembly room; the departmental nursery, and the newly planted boulevards, are also worthy of notice. This town is forty-three miles south of Roanne, fifty-eight W. S. W. of Lyons, the same distance north-west of St. Etienne, and 367 south-east of Paris, in N. lat. 45° 36', and E. long. from Paris 1° 44'.

MONT-DE-MARSAN, a well-built town, the chief place of a subprefecture, in the department of the Landes, France, having an inferior court of justice under the royal court of Paris, an agricultural society, a society of arts and sciences, and a communal college. It is a post-

town, containing 3000 inhabitants, standing on an eminence, in a sandy plain, well cultivated and shaded with fine trees, at the confluence of the Douze and the Midon. This place has been much enlarged and embellished since the division of France into departments. The streets are clean and airy, adorned with several public fountains. A bridge thrown over the Douze, which begins to be navigable here, the prefect's palace, the barracks, and a court house built within these few years past, give it an importance to which it had few pretensions before the end of the last century; and it is surrounded with magnificent avenues and walks recently planted. There are some mineral waters here that are held in estimation. Manufactures are carried on of counterpanes, coarse cloths, linen for veils, and tauning. The trade of the town consists in the produce of the neighbourhood. It is the mart of commerce of Bourdeaux and Bayonne for wines, brandy and wool being furnished by the adjacent departments. There is a public library containing 12,000 volumes, an establishment of baths, and a bridge over the Midouze. Mont-de-Marsan is situated in 2° 49' E. long. from Paris, lat. 43° 54' N. Eighty-four miles south from Bourdeaux, eighty-seven north-east of Bayonne, and 570 south-west from Paris.

MONTDIDIER, an ancient town of the department of the Somme in France, and the chief place of a department of the same name, having an inferior court of justice, a board of trade, an agricultural society, and a communal college. It is a post town, with 4500 inhabitants; and is built upon a hill near the river Don. It was formerly fortified, and the residence of several of the kings of France in the twelfth century. Some remains of its ancient fortifications are still to be seen. This is the native place of Parmentier, the celebrated political economist. The inhabitants carry on the manufacture of hats, calicoes, serge, and stockings; they have also cotton spinning factories, dye-houses, tan-yards, and curriers' shops; and trade in corn, vegetables, cattle, coal, and turf. This town is twenty-seven miles S. S. E. of Amiens, and sixty-nine north of Paris.

MONT-D'OR, a small chain of mountains, reaching from the Puy-de-dome to the gates of Lyons, and peopled with many villages the country round, which is excellently cultivated. There are fine pastures on them, feeding numerous herds of cows and goats, the latter of which yield the richest milk, of which fine cheeses are made, known by the name of Mont-d'or cheeses. These goats, to the number of from 18,000 to 20,000, are fed in the stable all the year round, and their hair is very valuable.

MONT-D'OR (the), one of the highest mountains in the department of Puy-de-Dome, which gives a name to a mass of mountains situated in the Lower Auvergne, about sixty miles in circumference. It is celebrated for its hot baths, which are supplied by springs that issue from the mountain of Puy-de-l'Angle, and is 3000 feet above the village of the baths, and 8868 feet above the level of the sea. Above the village a magnificent valley opens from south to north, of nearly five miles long and one broad, through which runs the Dordogne, along cultivated lands

and smiling pastures; it is closed in at its upper extremity by a semicircle of lofty peaks. Two of them being furrowed with the most frightful ravines, and the other opposite to it presenting an enormous volcanic rock, on which are elevated a number of immense basaltic prisms. On the other side it is enclosed by eminences, among which towers Mont-d'or, giving to the whole an air of grandeur and majesty seldom seen. In the midst of the ravines rises the uppermost peak, supporting a bank of lava, from which a cascade precipitates itself, the waters of which form the small river that crosses the valley; the red bottom of the ravine rendering more brilliant the silvery whiteness of the stream. This rich scene would be admired even separate from the objects that surround it; but here it delights the beholder, placed as it is in the centre of the valley, and forming the crowning feature of a magnificent picture. From the top of this noble eminence the Alps are visible, and its summit may be seen from Nevers, which is ninety miles distant, and even from Montauban, at the distance of 120 miles.

This mountain takes its appellation from a little brook called the Dor, which rises near the source of another called the Dogne; these two streams, after their union, form the river called the Dordogne. On the top, in the crater of an old volcano, is a lake called Paven, the waters of which are very clear, and at least 288 feet deep; it is surrounded with a certain of verdure of 120 feet wide, which delightfully crowns its brink on every side. This enclosure, which is on a precipitous slope, is covered with short grass, and the greater part with wood; and, from a gap in the crater, the waters of the lake burst forth, flowing over a bed of lava, and precipitating itself into a channel, which it has hollowed out on the declivity of the mountain, until it reaches the vale that is crossed by the Couse, when it falls with that river into the Allier, between the Brionde and the Allier.

MONT-D'OR, or MONTE ROTONDO, a high mountain of Corsica, situated almost in the centre of the island. From its summit the whole extent of Corsica may be seen, as well as the Sardinian coast, the Mediterranean, and several of its islands; while, in the distance, France and Italy are visible. It is covered with snow during a great part of the year.

MONT-D'OR-LES-BAINS, a small town in the arrondissement of Issoire, department of the Puy-de-Dome, situated in the midst of a group of mountains, abounding in mineral springs and medicinal plants, and famous for its establishment of warm baths. The springs which supply these baths rise in the mountain called Puy-Del'Angle, whence the waters issue in great quantities from different openings. The first, called St. Margaret's, pours its waters into a freestone basin, not far from which is another spring, more abundant, but of the same quality. The second, called Cesar's bath, rises a little below the top of St. Margaret's mountain, the small building, which receives its waters, being of a very high antiquity. The third, called the great bath, a short distance from the last, is contained

within a square building of Gothic architecture. The fourth spring, called the Magdalen's, rises at the bottom of the Angle mountain, and flows into a modern square building, in the middle of the Place-du-Pantheon, and is universally resorted to by those who come to drink the waters. A large building, recently erected by government, unites within its enclosure all these springs, and is divided into three parts, affording accommodations for all classes. In the front of this establishment is a newly made walk, planted with trees, at the lower end of which flow the united streams of the Dor and the Dogne. In the year 1825 a grant was made from the public purse of 100,000 francs for the building of a hospital on Mont-d'or, in which the poor may receive gratuitously all the succors of nature and art. Two of the springs are cold, and are generally used for drinking; they are particularly suitable for persons afflicted with pulmonary consumption; the temperature of the warm waters does not exceed 37°; they are used in baths, and produce excellent effects on gouty and rheumatic persons. The season for taking the waters commences on the 25th of June, and continues till the 20th of September. The fine roads that lead to this place render the communications safe and easy. It is twenty-seven miles south-west of Clermont, thirty-six west of Issoire, and twenty-one south-east of Rochefort.

MONTE CRISTI, a cape, bay, and town on the north side of the island of St. Domingo. The cape is a high hill, situated in long. 71° 44' W., lat. 19° 54' N. On doubling the cape, the bay extends in a south-west direction, and contains a small island of this name. The town, which was formerly large, is now but a poor place. Population of the town and territory 3000.

MONTECUCULI (Raymond), generalissimo of the emperor's army, and one of the greatest commanders of his time, was born in Modena, of a distinguished family, in 1608. Ernest Montecuculi his uncle, who was general of the artillery in the imperial army, resolved that he should serve first as a common soldier, and that he should pass through all the military degrees before he was raised to command. This he did with applause. In 1644, when he was at the head of a party of 2000 horse, he surprised by a precipitate march 10,000 Swedes, who laid siege to Nemessau in Silesia, and obliged them to abandon their artillery and baggage; but soon after he was defeated and taken prisoner by general Banier. Having obtained his liberty, at the end of two years, he joined his troops to those of John de Wert; and defeated general Wrangel in Bohemia, who was killed in the battle. In 1657 the emperor made him general marshal de camp; and sent him to the assistance of John Casimir, king of Poland. Montecuculi vanquished Ragotzi prince of Transylvania, drove out the Swedes, and distinguished himself in an extraordinary manner against the Turks in Transylvania and Hungary. In 1673 he commanded the imperial army against the French, and took Bonne: he then proceeded with feint marches to deceive Turenne, in which he obtained great honor. However, the command of that army was taken from him in 1674, but

was restored to him in 1675, that he might make head against the great Turenne. All Europe had their eyes fixed on these two able warriors, who then made use of all the stratagems which genius and military knowledge were capable of suggesting. Marshal Turenne was obtaining the superiority when he was taken off by a cannon ball. Montecuculi wept at the death of so formidable an enemy, and bestowed upon him the greatest praises. The great prince of Conde, being the only remaining French general fit to oppose Montecuculi, was sent to the Rhine, and stopped the imperial general; who considered this last campaign as the most glorious of his life, not from his being conqueror, but for his not being conquered, when he was opposed by a Turenne and a Conde. He spent the rest of his life at the imperial court; and died at Lintz in 1680. He wrote Memoirs; the best edition is that of Strasburg, in 1735.

MONTEGO BAY, a sea-port town on the north coast of Jamaica, in a bay of the same name. It was made a legal port in 1758, and is now a flourishing town, with about 250 houses. In 1795 it was greatly damaged by an earthquake. The loss sustained amounted to £200,000. 150 vessels clear out here annually. Long. 77° 50' W., lat. 18° 29' N.

MONTE LEONE, a large town of Naples, in Calabria Ultra, near the gulf of Eufemia: though almost overthrown by the earthquake of 1783, its present population is 8000, and it has manufactures of silk, and is the see of a bishop. Twelve miles N. N. E. of Nicotera, and twenty-five south-west of Squillace.

MONTELMART, a well built town of the department of the Drome, and the principal place of a subprefecture, having an inferior court of judicature and a communal college. It is a post town, with 6500 inhabitants, situated at the foot and on the side of a hill near the confluence of the little rivers Roubion and Jabron, which, after uniting their streams just below its walls, mingle with the waves of the majestic Rhone. It is overlooked by an ancient castle, and surrounded with rich and fertile plains, and hills abounding in vines, mulberry trees, olives and orange trees, which grow here in the open field. Environed and intersected by various canals, this town offers great advantages for the establishment of manufactories. Round the walls both within and without there is a double road, by which carriages may make the entire circuit of the town. Four gates form an entrance to it, which front the four cardinal points of the compass. Manufactures are carried on here of linens, liqueurs, baskets, tanned leather, and highly esteemed morocco. There is also a considerable commerce in grain, flour, vegetables, fruit, wax, honey, walnut, and olive oil, silk wrought and in twist, earthenware, cattle, &c. This is the mart of forty or fifty towns, which bring hither their fruits and provisions and other produce of their industry. In the valley below the town the system of irrigating the meadows is carried to a degree of perfection that deserves particular attention. There is in this town a library of 3000 volumes. Faujas de St. Ford, the learned geologist, was born here. It is thirty-six miles south of Valence, and 472 south-east of Paris.

MONTELOVEZ, a city of Mexico, the capital of Cohahuila, is situated on a small stream, and is about a mile in length; having two public squares, seven churches, powder magazines, mills, and a hospital. It is the principal military depôt for the provinces of Cohahuila and Texas, and its population is about 3500.

MONTEM. The origin of the singular custom celebrated at Eton school every third year, on Whit Tuesday, cannot be satisfactorily ascertained, but the custom itself seems to have been coeval with the foundation of the college.

The procession is made to a tumulus, near the Bath road, which has acquired the name of Salt-hill. The chief object of this ceremony, which has of late years been conducted with more decorum than formerly, is to collect money for salt, as the phrase is, from all persons travelling on the road. The scholars who collect the money are called salt-bearers, and are dressed in rich silk habits. 'Tickets, inscribed with some motto, by way of pass word, are given to such persons as have already paid for salt, as a security from any further demands. The procession has been frequently honored with the presence of his majesty and the royal family, whose liberal contributions, added to those of many of the nobility and others, who have been educated at Eton, and purposely attend the meeting, have so far augmented the collection, that it has been known to amount to more than £800. The sum so collected is given to the senior-scholar, who is going off to Cambridge, for his support at the university.'—*Lysen's Magna Britania.*

MONTENEGRO, a mountainous district of Greece, having Albania to the south, and the province of Herzegovina to the north. Its territorial extent is about 3000 square miles, surrounded by a chain of lofty mountains. The interior contains very little level ground; but is occasionally enlivened with beautiful verdant plains. The soil is altogether pretty fertile, but agriculture is sadly neglected. The common objects of culture are, corn, potatoes, and vegetables: but the chief subsistence of the inhabitants are their flocks and herds. It is calculated that 120,000 sheep, large quantities of cattle, and about 300 tons of cheese, are exported annually. Fishing in the rivers and lakes is also a large source of support. Game is abundant; and the timber of the forests valuable; though but little present advantage is derived from it.

The inhabitants are a rude, courageous, and independent race; their friendships are firm and inviolable, and their hospitality frank.

Though included in the pachalic of Scutari, Montenegro has for more than a century withdrawn its allegiance from Turkey: it can bring into the field 10,000 fighting men, and, calculating on the aid of allies, the farther number of 5000. The country takes the name of Montenegro, or, as it is called by the natives, Czerna-Gora, from the dark appearance of its forest-covered mountains. There are seven small towns, each with nearly 2000 inhabitants: and 110 villages. Inhabitants altogether about 40,000.

MONTEREAU-FAULT-YONNE, an ancient town and chief place of a canton in the department of the Seine-et-Marne, France. It is a post town, with 4000 inhabitants, very pleasantly

situated at the confluence of the Yonne and the Seine, over which there is a very fine bridge. On this bridge Jean-sans-peur, duke of Burgundy, was assassinated in 1419, and in 1814 the French, commanded by Napoleon, obtained a victory over the allied powers. There are some earthenware potteries in this town, and some tan-yards. A considerable trade is carried on in corn and cattle for the Paris market, for which the Yonne and the Seine afford great facilities. Near the town on the top of a hill stands the chateau of Surville, a fine building in the form of a crescent commanding a view over the whole town, the plain round it, and the surrounding roads.

MONTEIRO, *n. s.* Span. *montero*. A horseman's cap.

His hat was like a helmet, or Spanish *montero*.

Bacon.

MONTESQUIEU (Charles de Secondat), baron, a celebrated French writer descended from a noble family of Guienne, and born at the castle of Brede, near Bourdeaux, in 1689. He showed an early genius, and at the age of twenty had prepared materials for his Spirit of Laws, by well digested extracts from those immense volumes of civil law which he had studied. He became a counsellor of the parliament of Bourdeaux in 1714, and in 1716 was received president a mortier. In 1721 he published his Persian Letters; in which, under the screen of Oriental manners, he satirized those of France. He was received into the French Academy in 1728; and, having quitted his civil employments, he travelled through Germany, Italy, Switzerland, Holland, and England, in which last country he resided three years. On his return he retired for two years to his estate at Brede, where he finished his work On the Causes of the Grandeur and Declension of the Romans; which appeared in 1734. The reputation acquired by this work only cleared the way for his great undertaking, the Spirit of Laws, which was printed at Geneva, in 2 vols. 4to. 1750. This was immediately attacked in a multitude of anonymous pamphlets. Montesquieu drew up a defence of it; which for moderation, and elegance of satire, may be regarded as a model. He died in Paris on the 10th of February, 1755. His conversation was spirited, agreeable, and instructive. Beside the above works, he wrote several small pieces, as the temple of Gnidus, Lysimachus, and an Essay upon Taste, which is left unfinished. His works have been collected since his death, and printed in Paris in a splendid edition, in 4to.; and have all been translated into English.

MONTETII, *n. s.* From the name of the inventor. A vessel in which glasses are washed.

New things produce new words, and thus *Montetith* has by one vessel saved his name from death.

King.

MONTE VIDEO, a town of South America, in the province of Buenos Ayres, situated on the north side of the river Plata, in a small bay, twenty leagues west of Cape Santa Maria, and entirely walled round. It derives its name from a mountain that overlooks the place, and on which is a light-house. The town is described by Mr. Caldcleugh, who was here in 1821, as in-

differently built, on a slope to the river; the houses are flat roofed, and formed in part of stone and burnt brick; the windows to the street strongly barricadoed. The streets had been lately paved by the Portuguese troops in the occupation of the town, at the expense of the inhabitants. There was, nevertheless, an air of desolation about them, which did not accord with the reported prosperity of the town. The cathedral presented an appearance but little imposing. It was thronged with ladies dressed in black, after the fashion of the country; and it was impossible not to be struck with their great personal charms.

'They were kneeling at their devotions on pieces of carpet, carried thither by their female servants, another proof that I had arrived in a more cleanly country, for this custom is not yet adopted in the north: the numbers of well dressed females in the streets was also a novel sight. In the evening I attended the play, and was introduced by one of the governor's staff to all the most celebrated beauties of the city, who were extremely polite, and, according to custom, pressed me to eat more sweatmeats than I could have wished. The theatre was small and ill-arranged; the actors, it may be supposed, not of the best. One of the farces exhibited, *El Ingles con Splin*, gave rise to many good natured, yet witty observations from the ladies, on our national character.

'During the winter months of June, July, and August, Montevideo enjoys,' according to this writer, 'a cool climate. The soil is productive, yielding remarkably fine wheat, beans, and Indian corn, with melons, and some of the fruits of Europe, such as apples and peaches, in abundance. The extensive plains are still covered with herds of cattle and horses, although not to the extent formerly the case; a circumstance to be attributed to the disturbed state of the country, previous to its occupation by the Portuguese. The principal objects of exportation are tallow and hides to England, and jerked beef to Brasil: Since the restoration of tranquillity the trade has considerably increased: such at one time was the unsettled state of Buenos Ayres, that it was more advisable to land cargoes at Montevideo and pay a regulated duty, than run the risk of a difficult navigation of 100 miles, and then pay an extravagant demand for customs, or a proportion of the cargo, for the expenses of smuggling. The chief imports are manufactured goods from England, and the products of a warmer climate, such as coffee and sugar from Brasil. The population has been rated at as much as 15,000 souls; but of late years it has decreased, from the unsettled state of the country. It scarcely reaches 10,000 at present, comprising a small proportion of blacks. The bay is protected by the Mount; and, although the water is occasionally low, yet, from the nature of the bottom, a soft mud, no mischief occurs by heavily laden vessels approaching the shore, and taking the ground. It is decidedly the best harbour in the river.

In 1806 the British force, which was despatched to make an attack on the Spanish territories in this quarter, took Monte Video by assault, after a desperate conflict and a heavy loss, one-third of

the troops engaged having been either killed or wounded. After the unsuccessful attack of Buenos Ayres by the British, in 1807, Monte Video was evacuated with all the other Spanish settlements. 120 miles E. N. E. of Buenos Ayres.

MONTEZUMA, or **MONTEÇUMA**, was emperor of Mexico when Cortez invaded that country in 1518, and obliged him to acknowledge himself in public the vassal of Charles V.; in name of tribute for which homage, Cortez received 600,000 merks of pure gold. Montezuma soon afterwards fell a sacrifice to his submission to the Spaniards. He and Alvaro, the lieutenant of Cortez, were besieged in the palace by 200,000 Mexicans. The emperor proposed to show himself to his subjects, that he might persuade them to desist from the attack: but the Mexicans no longer considered him in any other light but as the slave of foreign conquerors. In the midst of his speech, he received a blow with a stone, and he expired soon after, A. D. 1520. See **CORTES** and **MEXICO**. This unfortunate prince left two sons and three daughters, who embraced the Catholic faith. The eldest son obtained from Charles V. lands, revenues, and the title of count de Montezuma.

MONTFAUCON (Bernard de), a learned Benedictine of the congregation of St. Maur, famous for his knowledge of Pagan and ecclesiastical antiquities, was born of an ancient and noble family in Languedoc, in 1655. He served for some time in the army; but on the death of his parents, in 1675, he commenced Benedictine monk and applied himself to study. Though his life was long, healthy, retired, and laborious, his voluminous publications seem sufficiently to have employed the whole; exclusive of his greatest undertaking, for which he will be always memorable. This was his *Antiquité expliquée*, written in Latin and French, illustrated with elegant plates, in 10 vols. folio; to which he added a supplement of 5 vols. He died at the abbey of St. Germain in 1741.

MONTFERRAT, a duchy of Northern Italy, and a part of the Sardinian states, is bounded by Piedmont, Genoa, and the Milanese. Its territorial extent is 900 square miles, containing a number of hills and small mountains. The climate is very salubrious, and the soil productive in corn, wine, vegetables, fruit, chestnuts, flax, and hemp. It has likewise extensive and well-stocked pastures. It is watered by the Stura, the Bormida, the Belbo, the Orba, the Erro, and the Po. Here are four towns of tolerable size, Casale, Acqui, Alba, and Trino, and nearly 180 small towns and villages. Besides the labors of agriculture the inhabitants employ themselves in silk-spinning and other domestic manufactures. The duchy is divided into the two provinces of Acqui and Casale. Population 186,000.

MONTFORT (Simon), count de, descended from an illustrious and flourishing family, was lord of a small town of the same name ten leagues from Paris. He was one of the greatest generals of his age, and he displayed his bravery in the wars with the English and Germans. The strength of his constitution enabled him to support the severest labors of the field, and his majestic stature distinguished him in battle. In the greatest

dangers he possessed the utmost coolness and presence of mind: he observed every emergency; and was ready to bring assistance, while he himself was employed in attacking the bravest of his enemies; but he was guilty of great cruelties after victory. He was appointed to conduct the crusades against the Albigenes in 1209. He took Beziers and Carcassonne, raised the siege of Castelnau, and gained a great victory in 1213 over Peter king of Arragon, Raimond VI. count of Toulouse, and the counts of Foix and Cominges. He was killed at the siege of Toulouse on the 25th of June 1218 by a stone thrown by a woman. His younger son afterwards made a great figure in England as earl of Leicester.

MONTGERON (Lewis Basil Carre de), was born at Paris, A. D. 1686. His father was master of requests. He was scarcely twenty-five years of age when, he purchased the place of counsellor in parliament, where by his wit and external qualifications he gained considerable reputation. He was given up to irreligion and vice, when in 1731, he was converted by witnessing, according to his own account, miracles at the tomb of Deacon Paris. He had not long been the disciple of Jansenism when he suffered persecution. When the chamber of inquests was banished, in 1732, he was sent into the mountains of Auvergne, where he collected the proofs of the miracles wrought at abbé Paris's tomb, and composed a Demonstration of them, which in 1737 he presented to the king at Versailles, and for which he was confined till his death in 1754.

MONTGOLFIER (Stephen James), the celebrated aeronaut, was a native of Amiens. He was first a paper-manufacturer at Annonay, where in conjunction with his brother in 1782 he made the first known experiments in **AERONAUTICS**, see that article. He also invented a kind of vellum paper, for which he was rewarded with a pension and the order of St. Michael. He died in 1799, at the age of fifty-two.—Joseph Montgolfier his brother was the inventor or improver of a machine which he denominated the hydrostatic ram, and died at the baths of Balarruc, whither he had gone for the benefit of his health, in June 1810, in his seventieth year.

MONTGOMERY (James), lord of Lorges in the Orleanois, one of the bravest men of his age and famous under the title of Loges in the wars of Francis I. In 1545 he succeeded John Stuart count d'Aubigny in the command of the 100 archers in the Scotch guard. He wounded Francis I. in the chin with a firebrand, in some frolic with that prince, and thus occasioned the wearing of long beards in France for fifty years. Loges died aged above eighty, a short time after Henry II. He obtained the title of count de Montgomery in 1553, which he claimed as belonging to his ancestors, and as being descended by the earls of Eglinton in Scotland, from a younger son of the ancient house of Montgomery in England.

MONTGOMERY (Gabriel de), count Montgomery in Normandy, the son of the preceding, was remarkable for his valor and noble achievements, but still more so for occasioning the death of Henry II., by accidentally wounding him in the eye at a tournament, in 1559. After this un-

lucky accident, Montgomery visited Italy and other foreign countries; and did not return to France till the commencement of the civil wars, when he joined the Protestants, and became one of their principal leaders. In 1562 he defended Rouen against the royal army with great valor. The city being at length taken by storm, he stepped into a galley; and having surmounted by dint of rowing a chain which had been thrown across the Seine at Caudebec, to prevent succors from England, he escaped to Havre. In 1569 he was sent to the assistance of Bearn, which the Catholics, under Terrides, had almost entirely wrested from the queen of Navarre. He executed his commission with so great despatch, that Terrides was obliged to raise the siege of Navarreins, and retire with precipitation to Orthez. Montgomery pursued him to this city, which he took by assault; and Terrides and his principal officers were taken prisoners. After this the rest of Bearn submitted. He was at Paris at the time of the massacre on St. Bartholomew's day 1572, and narrowly escaped. He took refuge with his family, first in the island of Jersey and afterwards in England. In 1573 he carried a considerable fleet, which he had armed and fitted out in England, to the relief of Rochelle, which was then besieged by the Catholics: but, perhaps distrusting his forces, he left the road without fighting the Catholic fleet, and went to pillage Belleisle. Having disbanded his fleet, he returned to England to Henry de Champernon, his son-in-law, coast admiral of Cornwall. On the renewal of a war in France, in 1573, Montgomery, then in Jersey, passed over into Normandy, and joined the Protestant nobility of that province. Matignon, lieutenant-general in Lower Normandy, to whom Catherine de Medicis had given a particular charge to endeavour to seize the count, came unexpectedly upon him in St. Lo, and laid siege to that city. On the evening of the fifth day of the siege Montgomery left St. Lo with between sixty and eighty horse, forced the guard in the suburbs, and escaped amid a shower of musket bullets, without losing a single man, leaving the command of the place to Coulombieres Francis de Briqueville. Montgomery arrived at Domfront May 7th, 1574, with only twenty followers, intending to make no longer a stay in that place than was necessary to recruit them after the fatigues of so rapid a march. The same day he was joined by several gentlemen with a company of forty horse.—Meanwhile Matignon, enraged at having lost his prey, flew at the head of a party of horse, and arrived on the 9th before Domfront. He blocked up the place and attacked it with such violence that Montgomery was soon obliged to retire into the castle with the garrison, amounting to only 150 men. He sustained a furious assault, fought with the greatest boldness and obstinacy, and exposed himself in the breach like one who wished for death. Perceiving, however, that his soldiers, partly by the fire of the enemy and partly by constant desertion, were reduced almost to nothing, he capitulated on the 27th of May: he was carried to Paris, tortured and beheaded in 1574. Montgomery married in 1549 Elizabeth de la Fouche, of a noble family in Brittany, by whom left several children.

MONTGOMERY, a market and borough town and the chief town of Montgomeryshire, North Wales, is pleasantly situated near the Severn, on a rocky hill. It is in general well built, clean, and has an air of peculiar neatness. The ruins of the castle stand on an eminence north of the town. This was built in the time of William the Conqueror, and was the scene of various actions in the subsequent reigns. The church is an elegant building in the form of a cross. Near the castle stands a new county jail, and the guildhall, where the sessions are held alternately with Welsh Pool. The county courts are held here alternately with Machynleth. Montgomery sends a member to parliament, chosen by about eighty voters. It is governed by a high steward, two bailiffs, and a town-clerk. Population 932. Market on Thursday. Twenty-six miles south-west of Hereford, and 161 north-west of London.

MONTGOMERY, a county of the United States, in New York, bounded north by Hamilton's county; east by Essex, Warren, and Saratoga counties; south by Schenectady, Schoharie, and Otsego counties; and west by Oneida and Lewis counties. Its greatest length north and south is eighty-nine miles, and its greatest breadth is thirty-eight. The whole area is 2762 square miles, or 1,767,680 acres. The Mohawk runs eastward quite across the whole county; and to the south of this river the county is rich and fertile; that on the north is of little value. Montgomery sends five members to the house of assembly. Johnstown is the chief town.

MONTGOMERY, a county of the United States, in Pennsylvania, is bounded north-east by Buck's county, E. S. E. by Philadelphia county, S. S. W. by Delaware and Chester counties, and W. N. W. by Berks county. Chief town, Norriston.

MONTGOMERY, a county of the United States, in Maryland, bounded north-west by Frederick county, north-east by Anne Arundel county, south-east by Prince George county and the district of Columbia, and south-west by the Potomac.

MONTGOMERY, a county of the United States, in Ohio. Population, in 1810, 7722; in 1815 13,700. Dayton is the chief town.

MONTGOMERY, a county of the United States, in the south-west of Virginia, bounded N. N. W. by Giles and Monroe counties, E. N. E. by Botetourt county, south-east by Franklin and Patrick counties, and south-west by Grayson, Wythe, and Tazewell counties. The Spaniards had here very lately a military post, which they call a presidio, erected for the purpose of civilising the Indians; and in this benevolent task they exerted themselves with great prudence. The presidio was the residence of the governor of the province. 298 miles from Washington. Chief town Christiansburg.

MONTGOMERY, a county of the United States, in the centre of North Carolina. Chief town, Henderson.

MONTGOMERYSHIRE, a county of North Wales, is by the Welsh called Sir Tre Baldwin, or the shire of Baldwin, after the name of a lieutenant of the Marches, who swore fealty and did homage to William the Conqueror for this part of Cambria. The district comprehending the present county of Montgomery, anciently among

the Britons was included in the territory occupied by the Ordovices; and, on the prevalence of the imperial arms over the aboriginal inhabitants, was, with other parts of the island lying west of the Severn, comprised in the province of *Britannia Secunda*.

Montgomeryshire is bounded on the north by Denbighshire, by Shropshire on the east and north-east, on the south-east by Radnorshire, on the south-west by Cardiganshire, and by Merionethshire on the west. The dimensions have been variously given; but the most accurate statement seems to be that which makes the length north to south, and from the extremities of Llangurig, on the borders of South Wales, to Pistyl Rhaiadar, a noted cataract in the Berwyn hills, thirty-five miles; and its breadth, east to west from Montgomery to Machynleath, thirty miles; comprising, according to Templeman's statement, 444,800 acres. By computation 560,000; but by a recent survey, taken from Evans's map of North Wales, the average appears to amount to 491,000. About 60,000 of these are arable; 180,000 under pasturage; and about 250,000 waste or in an uncultivated state, including woodlands and other plantations. It is divided into nine hundreds, viz. Llanfyllin, Deuddwr, Pool, Cawrse, Mathrafal, Machynleth, Llanydloes, Newtown, and Montgomery; comprising forty-seven parishes and seven market-towns, viz. Montgomery, a borough, and the county town, Welsh Pool, Llanfyllin, Llanfair, Machynleth, Newtown, and Llanydloes. For ecclesiastical jurisdiction it is distributed into three portions, part lying in the diocese of Bangor, part in St. Asaph, and part in Hereford; and all included in the province of Canterbury. It sends two representatives to the imperial parliament, one as knight of the shire, and the other as Burgess of the boroughs of Montgomery. Its honorial distinctions are confined to two families; Powys Castle gives the title of an earldom to that of Clive, and Montgomery to that of Herbert.

Owing to the great irregularity of surface, there arises a very considerable difference as to the state of climate in this county. The midland, western, and south-western parts, are unfavorable to the growth of corn, both from the ungenial nature of the soil, and the elevated exposure. The narrow valleys are more friendly to vegetation, and highly productive both in corn and grass. But the finest arable land lies on the eastern side of the county, bordering on Shropshire, where agriculture has of late years received considerable improvement, and the management of the land varies but little from that adopted in the adjacent county. The air of the hills is bleak, that of the confined valleys is frequently boisterous but highly salubrious; as the numerous instances of longevity, recorded on the stones that mark the humble annals of the poor, abundantly testify. There are many orchards in the valleys abounding with fruit; yet all attempts to introduce them profitably in the highest parts of the district have hitherto proved abortive. The greater part of the county assumes a mountainous characteristic, and considerable portions exhibit strong features of forbidding sterility. A line, commencing at Pumlumon, or Plinlimmon, on the

south-eastern part of the district, runs in a north-westerly direction between Llanbrynmair and Carns, to Llyn Gwyddior Lake; thence to Bwlch y Groes, where, near Aran Fowddior, it enters the adjacent county, through which it continues in nearly the same line, till it terminates in the valley of Festeniog. This has been termed the back bone of Montgomeryshire and Merionethshire. A person may walk this line of fifty miles in extent without crossing a rivulet, as it is the parting ridge of the eastern and western streams; and a farm-house in this line, near Drws y Nant, is so situated that the rain-water which falls on the western side of the roof flows into Cardigan Bay at Barmouth; and that which falls on the eastern side, flows into the Irish Sea at Chester Bar. The Freidden or Briidden hills form a noble group on the eastern side of the county; one of which, Moel y Golfa, stands most conspicuously pre-eminent; and Cefr y Castell little less so. On the south, the Biga mountains lying on the north side of the valley, through which the Severn flows, and a collateral branch of the Plinlimmon ridge, form a line of high table land several miles in extent. Besides these, numerous isolated hills and crags present themselves in almost every direction.

The main streams that fall on the western side of the ridge are the Traeth-bach River, flowing through the valley of Festeniog; the Mau, watering the lowlands near Dolgelly; and the Dovey, which, passing the Vale of Machynleth, may be considered to a considerable extent as claimable by Montgomeryshire. On the western side of this geological spine are found the sources of the Wye, Severn, Vyrnwy, Tanat, Rhaiadr Ceireog, and Dee. The last two have been noticed in Denbighshire, and the former four originate in this county. These, with several other secondary streams, run nearly in a parallel course towards the vale of Chester, or the plains of Salop. (The Wye is not here mentioned first for its being the most considerable river, but on account of placing the Severn in order with its contributory rivulets.) The Wye, rising on the south side of Plinlimmon, and taking an easterly course, is joined by the Bedw rivulet at Llangurig; whence, flowing in a south-easterly direction, it soon leaves the county. The Severn rises on the side of Plinlimmon, and, as connected with this district, it may be proper to remark that the character of the Severn does not much assimilate with its mountainous origin, and it soon loses its native rapidity, forming long vales, and generally burying itself within deep banks. Its color is far less transparent than that of the Wye, nor does it in any respect equal that river in picturesque beauty or variety of grand scenery, though it is greatly superior in commercial importance, and the population of its several districts, with their rich plains and fine cities. Even at Llanydloes it ceases to be a torrent, and from thence it forms a delightful valley, more like the extensive vales of England than those stipes of cultivation which prevail within the mountains of Wales. Every appearance of fertility exists in this happy district; and agriculture, with its attendant population, contributes to enrich it. Many villages lie spread beneath the hills; the

handsome town of Newtown adorns its banks ; and the fragments of Montgomery Castle start forward on a high mount, sheltering the remains of a town once more considerable. As the Severn, turned apparently by this bulwark, inclines to the north, the vale expands greatly in front of the insulated hills of Brytlen and Moelygofa, while the river flows beneath the superb groves, lawns, and terraces of Powis Castle, to commence its commercial importance at the opulent town of Welsh Pool. Soon after it quits the source, the Severn receives the waters of three powerful streams, called assistant rivers, viz. the Bacho, the Gluslyn, and the Grayling. These also rise on the side of Plinlimmon, and, becoming confluent, concur with the larger stream of the Hasren to form the original Severn, previous to its receiving a copious contributory, called the Si or Se, near the town of Llandydoes. The Byrnwy, rising in the vicinity of Bylch y Groes, takes an easterly direction to the town of Llanfair; whence it suddenly turns to the north-east, and at Llanymynech changes its course again to gain the Severn, near Llandrinia. The Tanat, or Tanad, after having been joined by the Rhaiadr a little below the village of Llanrhaiadr, the latter coming in an easterly direction from the Berwyn mountains on the confines of Denbighshire, continues its course in a similar direction, then turns suddenly to the south, and becomes confluent with the Vyrnwy, near Llansaintfraid-ymmechen. A canal, forming a branch of the Ellesmere, passes through, or rather penetrates, a portion of this county. The line subject to the control of the Montgomeryshire canal company, commences near Lanymynech lime-works, from which there is an iron railway about two miles and a half long, by which the limestone is conveyed to the boats. From thence it proceeds southerly, and is carried over the river Vyrnwy by means of an aqueduct, consisting of five arches, each forty feet in the span, and twenty-five feet above the ordinary surface of the water, exclusive of several collateral arches for the discharge of the surplus water brought down by the land floods in rainy seasons. Thence, passing Welsh Pool, it goes on to Garthmill, below Berhiew.

The soil and substratum vary, but not to so great an extent as in some of the adjacent counties, the substance of the vales being chiefly of an argillaceous, and the mountains of a schistose nature. Thus the substance of Plinlimmon, or Severn range of hills, is chiefly an homogeneous shale, becoming friable in the air, and easily abraded by water, and in all probability contains but few ores of metals ; therefore when held in solution, and afterwards deposited by water, it becomes the general matrix of vegetation. Northward from the Severn the mountains retain their shaly and friable character, a few isolated rocks excepted, quite up to the vale of Vyrnwy, where, on the north side, the gray semi-indurated mountain rock commences, and continues still northward to the vale of Tanat, which receives its soil depositon from the Berwyn range of mountains, consisting of argillaceous schistus. Thus it may be seen, that not only the fertility of the soil, but also the extent of a vale, depends upon the nature and quality of the mountains and rocks by which

they are surrounded. The Severn vale acquired its present superiority of extent and fertility over those more northern, owing to the facility with which the diluvian tides excavated the friable shale of its surrounding eminence. All valleys at their sources, where the streams that water them flow rapidly, consist generally of a light gravelly soil ; but the farther they extend, and the more expansive they become, from the waters proceeding nearly in a level in their course, the more loamy will be the sediment, and consequently the richer and more productive the soil. Limestone strata are rarely found in this district ; the only limestone rocks of any consideration are in the vicinity of Llanymynech, the termination of a ridge which comes from the north-west of Anglesey, in a line through the counties of Caernarvon and Denbigh. Lead ore of various qualities and divers quantities has been discovered in many parts of this district. Slates are principally found in the vicinity of Llangynnog. From a stupenduous rock pre-eminently rising on the north side of the village are obtained those slates, which for strength and durability are celebrated for the purposes of roofing throughout this and the adjacent counties. In an angle of the county, at Coedwae, on the borders of Salop, a few coal-pits have been opened, capable of producing about twelve tons per day. The state of husbandry in this district is extremely various, owing to causes partially arising from the different nature of the soils, the confined prejudices of ignorant farmers, or the more enlightened views of liberal agriculturists. The manufacture of this county consists chiefly of flannels, which are principally manufactured in the south-west of the county.

MONTIL, *n. s.*

MONTH'S MIND,

MONTILY, *adj. & adv.* } Sax. monað ; Teut. }
 } *monat* ; Lat. *mensis* ;
 } Gr. *μην*. Four weeks,
 or see below : month's mind is used by Shakspeare for strong desire : monthly is continuing ; performed or occurring once in a month.

When ye seyen not, that yit foure *monthes* ben ;
 and ripe corn cometh ? *Wiclif. Jon 4.*

From a *month* old even unto five yeas old.

Lev. xxvii. 6.

If the one may very well *monthly*, the other may
 as well even daily, be iterated. *Hooker.*

Till the expiration of your *month*,

Sojourn with my sister.

Shakspeare. King Lear.

You have a *month's mind* to them.

Shakspeare.

O swear not by the moon, the inconstant moon,
 That changes *monthly* in her circled orb ;
 Lest that thy love prove likewise variable. *Id.*

For if a trumpet sound, or drum beat,
 Who has not a *month's mind* to combat ?

Hudibras.

Months are not only lunar, and measured by the moon, but also solar, and terminated by the motion of the sun, in thirty degrees of the ecliptick.

Browne's Vulgar Errors.

As many *months* as I sustained her hate,

So many years is she condemned by fate

To daily death. *Dryden's Theob. and Honoria.*

The youth of heavenly birth I viewed,

For whom our *monthly* victims are renewed.

Dryden.

I would ask concerning the *monthly* revolutions of the moon about the earth, or the diurnal ones of the earth upon its own axis, whether these have been finite or infinite.

Bentley.

MONTH, in its proper acceptation, is that space of time which the moon takes up in passing from any certain point to the same again, which is called a periodical month; or, it is the space of time between two conjunctions of the moon with the sun, which is called a synodical month. That space of time which the sun takes up in passing through one sign, or twelfth part of the zodiac, is also called (but improperly) a month. So that there are two sorts of months; lunar, which are measured by the moon (see CHRONOLOGY); and solar, which are measured by the sun. A solar month contains, upon a mean calculation, thirty days, ten hours, twenty-nine minutes, five seconds. The Jews, Greeks, and Romans, made use of lunar synodical months; but, to avoid fractions, they consisted alternately of twenty-nine and thirty days. The former, the Romans called *cavi*, and the Greeks *χοιλοι*; the latter were termed *pleni* and *πληρεις*.

MONTHS, GREEKIAN. The months of the Athenian year consisted alternately of twenty-nine and thirty days. The first month, according to Me-ton's reformation of the kalendar, began with the first new moon after the summer solstice, and was called *hecatombæon*, answering to the latter half of June, and the former half of July. The order of the months, with the number of days of each, were as follows:—

1 Hecatombæon	30	7 Posideon	30
2 Metageitnion	29	8 Gamelion	29
8 Boedromion	30	9 Elaphebolion	30
4 Mæacterion	29	10 Munychion	29
5 Pyanepsion	30	11 Thargelion	30
6 Anthesterion	29	12 Skirrophorion	29

Each month was divided into three decades of days called *δεχημερα*. The first was called *Μηνος αρχομενη* or *ισαμηνς*, or the decade of the beginning of the month; the second was *Μηνος μεσσητος*, or the decade of the middle; and the third was *Μηνος φθινοτος*, *παυομενη* or *ληγοντος*, the decade of the expiring month. The first day of the first decade was termed *Νεομηνια*, because the first month began with the new moon; the second day was *δευτερα*, *ισαμενη*; the third *τριτη* *ισαμενη*, &c. The first day of the second decade was *πρωτη μεσσητος*, the second *δευτερα μεσσητος*, &c.—the days of this decade were also called *πρωτη επι δεκα*, *δευτερα επι δεκα*, &c. The first day of the third decade was *πρωτη επ' εικαδι*; the second day was *δευτερα επ' εικαδι*, &c., i. e. the first, second, &c., after twenty, because the last decade began on the twentieth day. This decade was also counted by inversion thus: *φθινοτος δεκατη* the twenty-first; *φθινοτος εννατη* the twenty-second; *φθινοτος ογδση* the twenty-third; and so of the rest of the last day of the month, which was called *ενη και νια*, the old and the new, because one part of that day belonged to the old and the other to the new moon; but after the time of Demetrius, the last day of the month was called from him *Δημητριας*; it sometimes was named *τριακας*. The Grecian months thus consisting of twenty-nine and thirty

days alternately, fell short of the solar year eleven days six hours. To remedy this defect, the cycle of four years, called *τετραειρηος*, was invented. In this cycle, after the two first years, they added an intercalated month called *εμβολιος*, consisting of twenty-two days; and again, after the expiration of two years more, they inserted another month of twenty-three days, the fourth part of a day whole in the space of four years amounted to a whole year. See YEAR.

MONTHS, HEBREW. The Hebrew months were ranged differently in their sacred and in their civil year.

Order of the sacred Year.	Year.	Order of the civil Year.	
1 Nisan	Mar.	1 Tisri	Sep.
2 Jair	Apr.	2 Marshevan	Oct.
3 Sivan	May	3 Casleu	Nov.
4 Thammuz	June	4 Thebet	Dec.
5 Ab	July	5 Sebat	Jan.
6 Elul	Aug.	6 Adar	Feb.
7 Tisri	Sep.	7 Nisan	Mar.
8 Marshevan	Oct.	8 Jair	Apr.
9 Casleu	Nov.	9 Sivan	May
10 Thebet	Dec.	10 Thammuz	June
11 Sebat	Jan.	11 Ab	July
12 Adar	Feb.	12 Elul	Aug.

These months, being lunar, cannot exactly answer to our solar months; but every Jewish month must be conceived to answer to two of ours, and partake of both. As these twelve lunar months consisted only of 354 days, the Jews, in order to bring it nearer to the true year, took care every three years to intercalate a thirteenth month into the number, which they called *ve-adar*, or the second *adar*. The new moon was always the beginning of the month; and it is said the Jews had people posted on elevated places, to give notice to the Sanhedrim as soon as she made her appearance. After this, proclamation was made by sound of trumpet, and 'the feast of the new moon' resounded among the people. The ancient Hebrew months were of thirty days each, excepting the last, which consisted of thirty-five; so that the year contained 365 days, with an intercalary month at the end of 120 years, which, by absorbing the odd hours which remained at the conclusion of each year, brought it back nearly to its proper place. This regulation of the year was borrowed from the Egyptians.

MONTHS, ROMAN. The Roman year under Romulus consisted of ten months only, and began with March, which contained thirty-one days, then followed April, which had thirty, May thirty-one, June thirty, Quintilis thirty-one, Sextilis thirty, September thirty, October thirty-one, November thirty, December thirty. These ten months containing no more than 304 days, this division was soon found deficient. Numa Pompilius, therefore, took away one day from each of these six months, April, June, Sextilis, September, November, December; and to the six days thus obtained he added fifty-one, which was the number that Romulus's year, in his opinion, wanted to make it perfect. Numa had now fifty-seven days to dispose of; he therefore divided them, and constituted two other months, January and February; the former consisting of twenty-nine and the latter of twenty-eight days. January, and thirty

which he placed at the winter solstice, he made instead of March, to begin the year. Thus Numa's year consisted of 355 days; but, this being found eleven days six hours short of the solar year, he made use of the intercalation of ninety days at the expiration of eight years perpetually; which number, being made up of the eleven days and a quarter, kept the year pretty well to its place. The beginning of the year in Julius Cæsar's time had anticipated its true place sixty-seven whole days; these he intercalated betwixt November and December; so that the year consisted of fifteen months, or 445 days. This reformation was called the Julian correction, and this year the year of confusion. At the end of twelve years, by the ignorance of priests, who did not understand intercalation, twelve days had been intercalated for nine. This was observed by Augustus, and rectified, by ordering twelve years to pass without any intercalary days. The order and succession of months was the same as that of Numa; but January, March, May, Quintilis, Sextilis, October, and December, had each thirty-one days; April, June, September, thirty; and February, in common years, twenty-eight, but every fourth year or bissextile twenty-nine. This, with a very little difference, is the account observed at present. Quintilis, in compliment to Julius Cæsar, was called July, because in this month he was born; and Sextilis, in honor of Augustus, was called August, both which names are still continued. See YEAR. Each month by the Romans was divided into kalends, nones, and ides, all of which were reckoned backwards. The kalends were the first day of the month. See KALENDAR.

MONTJOYE, a town of Prussia, in the duchy of Juliers. It has a castle on an eminence; and a small stream, the Tigenbruch, divides the town. It is surrounded by steep rocks, and is situated in a barren district; but it has extensive woollen manufactures. Population 3200. Sixteen miles S. S. E. of Aix-la-Chapelle.

MONTINIA, in botany, a genus of the tetrandria order, belonging to the diœcia class of plants. MALE perianth, of the male quadridented superior; petals four: FEMALE CAL. and cor. as in the male; filaments barren; style bifid; caps. oblong and bilocular.

MONTMORENCI, or **MONTMORENCY** (Ann de), a peer, marshal, and constable of France, and one of the greatest generals of the sixteenth century. He defended, in 1512, the city of Menziers against the emperor Charles V., and obliged the count of Nassau to raise the siege. In 1513 he was made marshal of France; and, in 1525, following king Francis I. into Italy, he was taken with that prince at the battle of Pavia, which was fought contrary to his advice. The important services he afterwards rendered the state were rewarded by the sword of constable of France, with which he was presented by the king, February 10th, 1538. He afterwards underwent various revolutions of fortune both at court and in the field. At last, being wounded at the battle of St. Denis, which he gained on the 10th of November, 1567, he died of his wounds two days after, aged seventy-four. A cordelier offering to prepare him for death,

when he was covered with blood and wounds, after the battle of St. Denis, he replied in a firm and steady voice: 'Do you think that a man who has lived nearly eighty years with honor, has not learnt to die for a quarter of an hour?'

MONTMORENCY, a river of Canada, falling into the St. Lawrence about seven miles below Quebec. It runs altogether a very irregular course, through a thickly wooded country and over a bed of broken rocks, till it comes to the brink of a precipice, down which it descends in one beautiful uninterrupted and nearly perpendicular fall of 240 feet. The stream, except at the time of floods, is but scanty; but being broken into foam, by rushing with such rapidity as it does over the rocks at the top of the precipice, it is much dilated. The breadth at top, from bank to bank, is about fifty feet only. In its fall it is said to have the exact appearance of snow, as when thrown in heaps from the roof of a house. The spray at the bottom is considerable, and, when the sun happens to shine, the prismatic hues are exhibited in it in all their variety.

MONTMORENCY-ENGHIEN, lately called Emile, the principal place of a canton in the department of the Seine-et-Oise, France, is a post-town with 1800 inhabitants, and situated on an eminence, which overlooks a valley celebrated for its fertility. The view is one of the most delightful that can be conceived, and the air pure and serene. There is a chateau in the neighbourhood, very finely situated, with an extensive park, intersected by the river Nôtre, and containing some excellent springs and plantations. The forest of Montmorency is near the town, at the extremity of which is the house once inhabited by J. J. Rousseau, called The Hermitage. In the chestnut grove adjoining, the towns-people and peasantry assemble to dance at the festival of the guardian saint of Montmorency on the two Sundays which follow the 28th of July. Near the pool of this town, in the valley, is a sulphureous spring, almost equal to that of Barrege, which has been the occasion of a celebrated establishment of warm baths at Enghien. These are open from the fifteenth of June to the end of September, when the fine park of Saint Gratien, and the large lake of Montmorency, furnish the bathers with charming walks through plantations extending over more than 500 acres, and disposed after the English manner; while the expenses of the place are very moderate, considering the improvements that have been made. Coaches start for Paris several times in the day for the convenience of the visitors. Manufactures of lace and embroidery are carried on here: vegetable, fruits, and fruit-trees, especially cherries, are much cultivated, and there is some traffic in all these articles. The parish church is remarkable for its architecture and Gothic sculpture, the production of the sixteenth century. This place is fifteen miles south-east of Pontoise, and nine north of Paris.

MONTPELLIER, a post town of Washington county, Vermont, on Onion River; thirty-eight miles E. S. E. of Burlington, sixty north of Windsor, 120 S. S. E. of Montreil, 150 N. N. E. of Albany, 160 N. N. W. of Boston. It is the permanent seat of the state government, and the

shire town of the county. The village is situated on the south-west part of the township, and contained in 1822 a state-house built of wood, a court-house, a jail, an academy, two paper-mills, two carding machines, two clothiers' works, a printing-office, and about 100 dwelling-houses, the most of which are handsomely built. It is a flourishing place, and has considerable trade. But the site on which it is built is low, being surrounded by hills of considerable height. It is situated within ten miles of the centre of the state, and is a great thoroughfare.

MONTPELLIER, or **MONTPELIER**, Mons Puellarum, a large and handsome city, the chief place of a prefecture of the same name, in the department of Herault, France, having a royal court for the departments of Herault, the Aude, the Aveyron, and the Eastern Pyrenees; an inferior court of justice, chamber of commerce, an agricultural society, an academy, faculties of medicine and science, an athenæum, a royal college, a veterinary school, and a bishopric. It is the first place of the ninth military division, and a post town, containing 32,000 inhabitants. It stands in a fine situation on a hill, at the foot of which flow the Lez and the Merdanson. The surrounding country is beautiful, adorned with elegantly built country houses, covered with gardens and orchards, and encircled with hills crowned with shrubberies and planted with vines and olives.

The town is generally built of freestone; but most of the streets are narrow and steep, and the public squares are small and irregular; yet the general appearance of the place is pleasing. There are several beautiful parts, some fine fountains, a spacious esplanade, a noble botanical garden, a magnificent walk, and several well executed monuments.

The history of Montpellier does not go farther back than the eighth century; before that epoch it was only a village formed out of the ruins of Maguelone, the bishopric of which was afterwards transferred hither. Charles Martel increased the number of its inhabitants and gave them a taste for commerce; in a few years it became an important town, and the reputation of its physicians was celebrated as early as the twelfth century. One of the daughters of William, the lord of this place, having married Peter II., king of Arragon, in 1204, it passed into the hands of the sovereigns of Majorca. Philip de Valois obtained possession of it in 1349; but a short time after Charles V. ceded it to Charles the Bad, king of Navarre, and it did not come into the possession of the kings of France until towards the end of the reign of Charles VI. Montpellier has been the theatre of many bloody tragedies on religious accounts. The Huguenots obtained it in the reign of Henry III., and established a republican government, which lasted till the year 1622: after that, having sustained a terrible siege, it submitted to Louis XIII., who caused a citadel to be built in it. It owes great part of its celebrity to its medical school, so much famed through all Europe, and which originated with the Arabs, who were driven out of Spain by the Goths and hospitably received by the earls of Montpellier. During seven centuries that it has been estab-

lished it has not belied its reputation, but always attracted a great number of students.

There are here manufactures of cloth, woollen counterpanes, muslins, handkerchiefs, verdigris, mineral acids and other chemicals, soap, corks, liqueurs and perfumes; also cotton-spinning factories, numerous distilleries for brandy and other spirits, sugar refining-houses, tan yards, &c. A considerable trade is here carried on in wines, brandies, olive oil, citrons, oranges, dried fruits, leather, wool, copper, and verdigris. An institution has been set on foot for lending sums of money without interest. The medical school has a fine amphitheatre, the marble seat in which was found the arena of Nîmes, and a public library occupying several rooms, and containing 35,000 volumes; together with a number of very valuable manuscripts, an anatomical museum, and a public hall, decorated with busts. Among the other places worthy of notice may be mentioned the city public library, the museum of pictures, and the botanical garden, in which more than 8000 plants are cultivated. In one of the walks of this garden stands the tomb of Narcissa, Dr. Young's daughter. The promenade of Peyrou is very fine; it is a magnificent platform, surrounded with balustrades, raised ten or twelve feet above another promenade, which surrounds it with its covered vista; the ascent is by steps, and you enter by a gate. At one end is a chateau with six fronts, adorned with pillars; within this building is a basin, from which a sheet of water falls in a cascade over a fine imitation of rocks into another basin below. The water is brought to it by a noble aqueduct of modern construction, built of freestone in the style of the ancients, consisting of three rows of arcades, one over the other, and crossing a valley about nine miles broad. The most magnificent prospect is enjoyed from this promenade. The assembly room is a building of great simplicity, capable of containing 2000 spectators. Besides these there are the exchange, the observatory, the tower of pines, the general infirmary, the fountain of Jacques Cœur, and the triumphal arch called the gate of Peyrou, of the Doric order. About five miles south of Montpellier, at the pool of Magueloune, are to be seen the ruins of the town of that name.

This city is situated in lat. 41° 36' N., long. 1° 32' E. from Paris, being about 598 miles south of that metropolis, forty south-west of Nîmes, seventy north-west of Avignon, and 126 W. N. W. of Marseilles.

MONT-PERDU, a very lofty mountain in the Pyrenees, on the frontier of France and Spain. It is about 100 miles from the bay of Biscay, west, and considerably more from the Mediterranean; having a double summit, of which the higher is computed at 10,700, and the lower at 10,400 feet. The line of perpetual congelation begins here, 7500 feet. Adjoining is the great mountain of Marbore, and the remarkable cleft in its rocks, called la Breche de Roland.

MONTREAL, an important town, or city, of Upper Canada, on the south side of the island of this name. It is divided into the Upper and Lower town, subdivided into wards. The streets are airy and the new ones particularly com-

modious; some of them running the whole length of the town, parallel to the river, and intersected by others at right angles. The houses are, for the most part, of a gray stone; and sheet iron or tin is the universal roofing. It perhaps has on the whole a heavy and gloomy appearance; the houses being seldom more than two stories above the ground floor, including garrets; and the doors and window-shutters being covered with large sheets of tin, painted of a red or lead-color. The only open place or square in the town, except the two markets, is the Place d'Armes, where, under the French government, the garrison troops were paraded.

The principal street of the Lower Town, extending from north to south, the whole length of the city, at the water side, is called Paul Street. Here are situated the principal stores, the lower market-place, the post-office, and the Hotel Dieu: and this is the chief mart of the trade and commerce. Notre Dame Street runs in a parallel line, extending along the whole length of the city, and here the dwelling-houses of the principal merchants are situated. These two streets are considerably lengthened to the northward by the suburb of Quebec; and to the southward by those of St. Antoine and Recollet. In the centre of the street of Notre Dame branches off a long street to the westward, forming the suburb of St. Lawrence. It is also the high road to the interior of the island. In one of the short streets leading to the upper town, opposite the court-house, a new market-place has been constructed.

The chief public edifices are the Hotel Dieu, founded in 1644, for administering relief to the destitute sick, and containing a superior and thirty-six nuns, who attend on the patients; general hospital, or convent of the Gray Sisters; a refuge for invalids; and for the aged poor; the convent of Notre Dame, composed of a superior and sixty sisters, for the instruction of females in all the necessary branches of their education; the cathedral church, in the Place d'Armes, a large substantial stone building; and the seminary of St. Sulpice, for the education of youth, adjoining the cathedral. The petit seminaire, or new college, in Recollet suburbs, is a handsome edifice, and the court-house in Notre Dame Street is respectable: here the courts of civil and criminal judicature are held. The jail of the district is near the court-house, and is a substantial building, erected in a healthy situation, on the site of the old one, destroyed by fire in 1803. At the western extremity of Notre Dame Street stands the old monastery of the recollets.

Montreal is the depôt of the fur-trading companies of North America; it is also the channel through which is carried on the commerce between Canada and the United states. The harbour, though not large, is secure for shipping during the time the river is open; and vessels drawing fifteen feet water can lie close to shore. The general depth is from three to four and a half fathoms, with good anchorage every where between the Market Gate Island and the shore. In the spring this island is nearly covered by the tides. The greatest disadvantage is the rapid of St. Mary, about a mile below it, whose current is so powerful, that, without a strong north-easterly wind, ships cannot stem it, and are sometimes

detained even for weeks, about two miles only from the place. A few log-houses formed, in 1640, the commencement of Montreal: its population soon amounted to 4000; when, in consequence of the hazards to which the new establishments were exposed from the irruptions of the Iroquois, a barrier was drawn round it with palisades, and it was surrounded with a high wall and battlements. All danger of this kind of hostility having long ago ceased, the wall has been allowed to fall into decay, and the last remains of it have been removed by a recent act of the provincial legislature. In 1760 this town was taken by the English, under general Amherst, and in 1775 by the Americans, under general Montgomery; but soon after evacuated. It is 120 miles south-west of Quebec, the town of Trois Rivieres being about half-way; 220 north by west of Boston, and 286 north-east of Niagara. Long. 73° 35' W., lat. 45° 31' N.

MONTREAL, an island and county of Lower Canada, at the confluence of the Grand or Ottawa River with the St. Lawrence. It is of a triangular shape, thirty-two miles long by ten and a half broad. The Riviere de Prairie separates on the north-west from the isle Jesus. The island contains the following nine parishes, St. Ann, St. Genevieve, Point Claire, La Chine, Sault au Recollet, St. Laurent, Riviere des Prairies, Pointe-au-Tremble, and Longue Pointe. With some exceptions, it exhibits a level surface, watered by rivulets. From Montreal city to the eastward the shores are from fifteen to twenty feet above the level of the St. Lawrence; but in the opposite direction, towards La Chine, they are lower. Between the Coteau St. Pierre and the river the land is very flat and marshy. The soil, if a few insignificant tracks be overlooked, can scarcely be excelled, and is highly productive in grain of every species, vegetables, and fruits.

In the neighbourhood of Montreal are two or three considerable mountains. The largest is about a mile from the town, and is environed with neat country houses and gardens. The view from this place embraces a prodigious expanse of country, with the river St. Lawrence winding through it, and sending the action of its rapids, hurried over the rocks, even up to the summit of the mountain; on the left appears the town of Montreal, with its glittering spires, and shipping. This island belongs to the seminary of St. Sulpice, by whom it was settled about the year 1657.

MONTREAL, a district of Lower Canada, bounded on the north-east by the district of Three rivers, on the south by the states of New York and Vermont, where the boundary line, running parallel of 45° N. lat., divides the territories of the English and American governments; on the south-west by the province of Upper Canada and the Grand or Ottawa River; and on the north and north-west it runs as far as the unascertained limits of the province in that direction. The perpendicular breadth from St. Regis, along the general course of the river, is seventy-three miles and a half. It contains the counties of York, Effingham, Leinster, Warwick, Huntingdon, Kent, Surry, Bedford, Richelieu, and Montreal.

MONTREAL BAY, a Bay on the east side of

Lake Superior. Long. $84^{\circ} 50' W.$, lat. $47^{\circ} 10' N.$

MONTREAL, an island in Lake Superior, near the east coast. Long. $84^{\circ} 50' W.$, lat. $47^{\circ} 9' N.$

MONTREAL, a river of North America, which runs into Montreal Bay.

MONTREUIL, a town of France, on a hill adjoining the river Canche, about nine miles from the sea. It contains several good buildings, and has a few manufactures of flannel, woollens, and leather. Population 3400. Twenty miles south-east of Boulogne.

MONTREUIL, a town of France, six miles east of Paris. It sends peaches and garden herbs to Paris to the computed value of £12,000 annually. Population 3200.

MONTROSE, a parish of Scotland in Angusshire, anciently called Celurca. The most probable derivation of its modern appellation is from the Gaelic, in which Moinross signifies the fenny promontory, and it is called by the vulgar Monross to this day. Buchanan and others have given it a derivation more flattering than just, when they assert, that it properly means the mount of roses, Mons rosarum. Yet in allusion to this, the town's seal is impressed with roses. It is three miles long from north to south, and two and a half broad.

MONTROSE, a town in the above parish, situated at the mouth of the Esk, on the German Ocean. The town stands on a gently rising ground, in one of those low sandy flats which occur so frequently on the shores of the German Ocean, and which, from their slight elevation above the sea-level and other circumstances, appear to have been once overflowed by the water. It has the German Ocean on the east, at the distance of about half a mile, and to the west is a tract of low and level sands, about four square miles in extent, and nine miles in circumference, through which the South Esk winds its way to the sea, passing close to the town on its south side. These sands lie below the level of high water, and above the level of low water; and, the river opening a communication with the sea, it necessarily happens, that every rising tide rushes up the channel of the river, and inundates the whole of this sandy flat to the west of the town, which is again left uncovered by the reflux of the tide. The channel through which this great body of water is alternately poured in and discharged, is suddenly contracted at the south end of the town to the breadth of 700 feet at high water, and 400 feet at low spring tides; and, in consequence of this, the stream rushes in or out with great violence, according as the tide is either flowing or ebbing, and it is over the narrow part of the channel that the bridge is erected; the narrowness here, which both strengthens and deepens the current, rendering the situation in other respects favorable for a structure of this nature. This low land, over which, at each return of the tide, are spread the waters of the ocean, after they have made their way through the narrow channel of the South Esk, is called the basin, which forms a striking object in the scenery of the place, appearing, when the tide is full, a large and beautiful lake, and in a few hours afterwards, when the waters have retired, a desolated sandy marsh. In 1792 a fine timber bridge was erected over the gorge of this island to the island of Inch-

brayock, which, together with the stone bridge from the island to the south shore, afforded an open communication with the south part of the country. But the strength of the current undermining the piers of the timber bridge, in 1824, the commissioners requested plans of Mr. Buchanan, and one or two other surveyors, for the construction of a new one of iron, the expense of which was calculated at about £12,650. Whether they have made any progress in this we do not know. Two light-houses have lately been erected as guides into the harbour, and a large house has been built for receiving unfortunate sufferers by shipwreck and otherwise. Montrose is a port of the custom house, comprehending, within its bounds, the coast from the lights of Tay, on the south to Bervie-Brow, to the Tod-head on the north. The vessels of this port are chiefly employed in the coasting and Baltic trade, and in the whale fishery; and their number is continually increasing. The principal manufactures are linen-yarn and thread; and the sheeting and sail-cloth manufactures are carried on to a great extent. Here is an extensive tan-work, and several rope walks; also a foundry, two starch and several soap and candle manufactories. The houses are neat, built of stone, and many of them in the modern taste. The most remarkable public buildings are, the old and new town-houses, the church, the lunatic hospital, the public library, and an elegant episcopal chapel, situated in the links. The salmon fisheries on these rivers are very valuable, and form a considerable branch of commerce. This town has a theatre, monthly assemblies, and other places of amusement; and, for several years past, has been distinguished for its well attended races. Montrose unites with Aberdeen, Bervie, Brechin, and Arbroath, in electing a representative in the imperial parliament. The town council consists of a provost, three bailies, dean of guild, treasurer, and thirteen councillors. It lies forty-seven miles north-east of Perth, and twenty-three from Dundee.

MONTSERRAT, or MONSERAT, a mountain of Spain, in Catalonia, remarkable for its hermitages, and a rich monastery of Benedictines. It extends in the direction of east and west, on the river Llobregat, and is about twenty-four miles in circumference. It consists of an assemblage of conical hills, attaining a height of more than 3000 feet. Twenty-eight miles north-west of Barcelona.

MONTSERRAT, one of the West India Islands belonging to Great Britain, is small, but very pleasant and fertile, and was so called by Columbus from its resemblance to the above mountain. It has Antigua on the north-east, St. Christopher's and Nevis on the north-west, and Guadaloupe lying S. S. E. at the distance of about nine leagues. In its figure it is nearly round, about nine miles in extent every way, twenty-seven in circumference, and supposed to contain about 40,000 acres. The climate is warm, but less so than in Antigua. The surface is mountainous, but interspersed with pleasant, rich valleys: the hills are covered with cedars and other fine trees. Here are all the animals, vegetables, and fruits of the climate in perfection. The inhabitants raised formerly a considerable quantity

of indigo, which they cut four times a year. The present produce is cotton, rum, and sugar. There is no good harbour, but three tolerable roads, at Plymouth, Old Harbour, and Ker's Bay, where they ship the product of the island. The effects of industry have been no where more conspicuous than in this island of late years. The population was,

	Whites.	Free people of color.	Slaves.
1787 . . .	1300 . . .	260 . . .	10,000
1805 . . .	1000 . . .	250 . . .	9,500

The official value of the imports from the island into England, and exports to the island, were,

	Imports.	Exports.
1809 . . .	£35,407 . . .	£10,460
1810 . . .	62,462 . . .	16,816

The principal imports of the island's produce were,

	Sugar. <i>cuts.</i>	Rum. <i>galls.</i>	Cotton. <i>lbs.</i>
1809 . . .	21,917 . . .	51,182 . . .	29,455
1810 . . .	41,112 . . .	48,880 . . .	48,313

In 1632 Sir Thomas Warner, governor of St. Christopher's, first sent here a small English colony: this was reinforced by lord Willoughby soon after, and the colony quickly rose into notice. In 1668 the French reduced it; and in 1712 burnt all the shipping in the road. Its militia at present is 500 in number: and it is divided into two parishes.

MONUMENT, *n. s.* } *Fr. monument* ; *Lat. Monumental, adj.* } *monumentum.* A memorial: particularly a tomb, or memorial of the dead.

The flowers which in the circling valley grow,
Shall on his *monument* their odours throw. *Sandys.*

Some others were driven and distent
Into great ingots and to wedges square,
Some in round plates withouten *moniment.*

Faerie Queene.

Perseverance keeps honour bright:
To have done, is to hang quite out of fashion
Like rusty mail in *monumental* mockery. *Shakspeare.*

On your family's old *monument*
Hang mournful epitaphs, and do all rites
That appertain unto a burial. *Id.*

In his time there remained the *monument* of his
tomb in the mountain Jasius. *Raleigh.*

He is become a notable *monument* of unprosperous
disloyalty. *King Charles.*

Therefore if he needs must go,
And the fates will have it so,
Softly may he be possest
Of his *monumental* rest. *Crashaw.*

A man's best *monument* is his virtuous actions.
Bp. Hall.

So many grateful altars I would rear
Of grassy turf; and pile up every stone
Of lustre from the brook; in memory,
Or *monument* to ages: and thereon
Offer sweet-smelling gums. *Milton's Paradise Lost.*

When the sun begins to fling
His flaming beams, me, goddess, bring
To arched walks of twilight groves,
And shadows brown that Sylvan loves,
Of pine or *monumental* oak. *Milton.*

In a heap of slain,
Two youthful knights they found beneath a load opprest

Of slaughtered foes, whom first to death they sent,
The trophies of their strength, a bloody *monument.*
Dryden.

Of ancient British art

A pleasing *monument*, not less admired
Than what from Attick or Etruscan hands
Arose. *Philips.*

The destruction of the earth was the most *monu-*
mental proof that could have been given to all the
succeeding ages of mankind. *Woodward.*

With thee on Raphael's *monument* I mourn,
Or wait inspiring dreams at Maro's urn. *Pope.*

The polished pillar different sculptures grace,
A work outlasting *monumental* brass. *Id.*

MONUMENT, THE, of London, a remarkable pillar of the Doric order, erected on Fish Street Hill, to commemorate the cause and providential cessation of the fire of London. It is 202 feet high, that being also the distance of its base from the spot where the fire commenced. The pedestal is forty feet high, and the plinth twenty-eight feet square; the shaft of the column is 120 feet high: it is hollow, and encloses a staircase of black marble, consisting of 345 steps, by which a balcony, within thirty-two feet of the top, is reached. The column is surmounted with an urn forty-two feet high, with flames issuing from it.

On three sides of the pedestal are inscriptions, and the fourth is occupied with a piece of sculpture allegorically representing the destruction and rebuilding of the city. In one compartment the city appears in flames—the inhabitants, with outstretched arms, calling for succor—the insignia of the city lying thrown down and mutilated—while a female, wearing a civic crown and holding a sword, shews that the municipal authority was still maintained. The king, Charles II., occupies a conspicuous situation; he is represented in a Roman habit, and is trampling under his feet Envy, who seeks to renew the calamity by blowing flames out of his mouth. Near the sovereign are three females, representing Liberty, Imagination, and Architecture. Time is offering consolation to the distressed, and Providence gives assurance of peace and plenty. There are also several other figures, including Mars and Fortitude. The whole was executed by that eminent sculptor Caius Gabriel Cibber.

The inscriptions on the pedestal are in Latin; one of them details the great calamity, observing, 'that to the estates and fortunes of the citizens it was merciless, but to their lives very favorable, that it might, in all things, resemble the last conflagration of the world.' The second inscription records the activity with which, under the auspices and direction of the sovereign, the city was rebuilt. On the third side of the pedestal the names of the chief magistrates of the city, during whose mayoralties the monument was erected, are inscribed; and round the base there is an inscription attributing the destruction of the city to a 'popish faction,' in order to carry on the 'horrid plot for extirpating the protestant religion and old English liberty, and the introducing popery and slavery.'

This last inscription was defaced during the reign of James II.; but on his abdication, and the accession of William III., it was very deeply re-engraved. It is due to the memory of the great architect, Sir Christopher Wren, to state the inscriptions were not suggested by him, but adopted contrary to his wishes, instead of more

elegant and less illiberal compositions which he had prepared.

A person is constantly in attendance at the monument to admit visitors, who for a fee may ascend to the gallery, and two or three instances have occurred in which this facility has been used to a fatal purpose. The first was on the 26th of June, 1750, when a man, apparently a weaver, fell from the top, but whether accidentally or designedly is not known. Of the two remaining instances there is, however, no doubt: on the 7th of July, 1788, John Cradock, a baker, threw himself over the north side of the monument, and fell outside the railing; and on the 18th of January, 1810, Mr. Lyon Levy, a diamond merchant, threw himself from the east side of the gallery, and fell against the pedestal; as the height of the gallery from which they precipitated themselves is 175 feet, it is scarcely necessary to state that they were all killed on the spot.

MONZA, a town of Italy in a district of this name, late part of the duchy of Milan on the Lambro, eight miles N. N. E. of Milan. In this town is preserved the ancient iron crown, with which the emperors and kings of Italy were crowned. It is called the iron crown, though made of gold, and enriched with jewels, from an iron ring in the inside of it. It lately adorned the brows of the Jacobin, Republican, Consular, imperial, and royal Napoleon Buonaparte. Population 18,000.

MOOD, *n. s.* Sax. *moð*; Goth. and Swed.

MOODY, *adj.* *mod*; Fr. *mode*; Lat. *modus*. See MODE. Form of argument; grammatical change or form of a verb; stile of music; also mental temper (i. e. form or outward character of the mind); disposition; state of mind: moody is used both for mental, intellectual; and as meaning angry, out of temper.

And on his bare knees adoun they falle,
And wold have kist his feet ther as he stood,
Till at the last aslaked was his mood;
For pitee rennith sone in gentil herte.

Chaucer. Cant. Tales.

The trembling ghosts, with sad amazed mood,
Chattering their iron teeth, and staring wide
With stony eyes.

Faerie Queene.

That which we move for our better instruction's sake,
turneth into anger and choler in them; yet in their mood they cast forth somewhat wherewith, under pain of greater displeasure, we must rest contented.

Hooker.

Solyman, in a melancholy mood, walked up and down in his tent a great part of the night.

Knolles.

When you perceive his blood incline to mirth,
But being moody, give him line and scope,
Till that his passions, like a whale on ground,
Confound themselves with working.

Shakespeare.

Eyes unused to the melting mood,
Drop tears as fast as the Arabian trees
Their medicinal gum.

Id. Othello.

How now, moody?

What is't thou can'st demand?
Clorinda changed to ruth her warlike mood,
Few silver drops her vermil cheeks depaunt.

Fairfax.

They move
In perfect phalanx, to the Dorian mood
Of flutes, and soft recorders.

Milton's Paradise Lost.

She was in fittest mood

For cutting corns, or letting blood. *Hudibras.*
These two kids, to appease his angry mood,
I bear, of which the furies give him good. *Dryden.*
Every peevish, moody malecontent
Shall set the senseless rabble in an uproar. *Rowe.*
He now profuse of tears,
In suppliant mood fell prostrate at our feet.

Addison.

Mood is the regular determination of propositions according to their quantity and quality, i. e. their universal or particular affirmation or negation.

Watts's Logick.

Aristotle reduced our loose reasonings to certain rules, and made them conclude in mood and figure.

Baker on Learning.

Then—with the hurried tread, the upward eye,
The clenched hand, the pause of agony,
That listens, starting, lest the step too near
Approach intrusive on that mood of fear.

Byron.

MOOLTAN, or MOULTAN, a considerable province of Hindostan, situated between 28° and 31° of N. lat. It is bounded to the north by Lahore and Afghanistan, to the west by Baloochistan, to the south by Ajmeer and Sinde, and to the east by Lahore and Ajmeer. The northern and eastern districts of Mooltan are fertile, being watered by the rivers of the Punjab; but it becomes gradually sandy and barren as it approaches the desert between Sewee and Bekher or Backar, and over which during the summer months the pernicious simoon frequently blows. To the west of the river Indus the sterility increases and terminates in a ridge of black rocks. The province produces fine camels and an excellent breed of horses called Lackhy Tazees. It was invaded about the year 712, by a body of Arabs under the command of Mohammed Cossim, who took possession of the towns, and converted a number of the Afghans and natives of the Jat tribe. Early in the eleventh century it was invaded by the celebrated Mahmoud of Ghizne. For a long period it continued subject to the monarchs of his dynasty, and afterwards to those of Delhi.

In the end of the fourteenth century the province of Mooltan was taken possession of by Shaikh Yusuf Coreishy, and remained independent till reconquered by the celebrated Shire Shah, in the middle of the sixteenth century; it soon after became subject to the Moguls, upon whose decline it fell into the hands of various chiefs. The greater part of it is now subject to a nabob of Mooltan, who is obliged to pay tribute to the Afghans; to the Seiks, and to Sinde. The population consists of Afghans, Jats, and other Hindoo tribes. Its chief towns are Mooltan, Behawulpore, Adjodin, Cutch, and Debalpore.

MOOLTAN, the Malli probably of Alexander, is the capital of the above province. It was taken by the Arabs in 712; and, on account of the immense plunder found, was named Daral Zeheb, or house of gold, and Kubbeh al Islam, the cupola of faith. It is thus described by Iben Haukal, in the middle of the tenth century:—
'The city of Mooltan is about half the size of Mansoureh-Buckhur, and is called the Golden-house; for there is in this city a certain idol, to which the natives of the country come on a religious pilgrimage every year, and bring great

riches with them. The temple is situated in the middle of the city; and over the centre of the temple there is a great cupola or dome. All around this building are various houses, in which the servants and attendants of the idol reside. The idol is made in the form of a man sitting upon a square throne, the hands resting on the knees (the figure of Boodh). All the riches which are brought to this idol are taken by the ameer (Arab governor), who distributes a portion among the servants of the temple. Whenever the Indians come against Mooltan in a hostile manner, the ameer threatens to destroy the idol, which causes them to desist. This ameer is a Coreishy Arab, and a descendant of Sam, who first conquered Mooltan. He has not any power over Mansoureh, but the Khutbeh is read in the name of the khalif.

In 1010 this city fell with the province into the hands of the sultan Mahmoud of Ghizne, and its chief, an Afghaun named Daoud Khan, was taken prisoner. It was, however, recovered by the Afghauns, and again captured by Mahommed Ghory in 1176. From that period it was subject to the kings of Delhi, till 1398, when it was captured by Timour or Tamerlane. After his retreat from Hindostan it became the capital of an independent dynasty, as we have seen.

It was visited in 1808 by Mr. Elphinstone, who describes it as standing about four miles south-east of the Chenab, or Acesinies River, and surrounded by a fine wall forty feet high, and four miles in circumference, with towers at regular distances. It has a citadel situated on a rising ground, and several handsome tombs. Mooltan is famous for its silks and carpets, and the country immediately around he found very pleasant and well cultivated. The chief tombs are those of two Mahometan saints, named Beha ad Deen, the splendor of religion, and Rukkun ad Deen, the pillar of religion. They have high cupolas ornamented with painted tiles, which give them a magnificent appearance; they are also exceedingly rich, being visited annually by many thousands of pilgrims. The town is inhabited both by Hindoos and Mahometans, many of whom are very expert imitative artists. Long. 71° 19' E., lat. 30° 35' N.

MOON, *n. s.*

MOON'BEAM,

MOON'CALF,

MOON'EYED, *adj.*

MOON'FISH, *n. s.*

MOON'LESS, *adj.*

MOON'LIGHT, *n. s. & adj.*

MOON'SEED, *n. s.*

MOON'SHINE, *n. s. & adj.*

MOON'SHINY, *adj.*

MOON'STRUCK,

MOON'TREFOIL, *n. s.*

MOON'WORT,

MOON'Y, *adj.*

natic; affected by the moon: moon-wort, a name for the station flower: moony, lunated. The other compounds are explained by the extracts below.

Their bishop and his clergy, being departed from them by moonlight, to choose in his room any other bishop, had been altogether impossible. *Hooker.*

Sax. *mena*, *mona*; Isl. *mona*; Goth. and Swed. *mena*, *mana*; Belg. *maan*; Teut. *mon*, *mond*; Gr. *μηνή*. The satellite of the earth: a moon-calf is a sort of poetical monster; a false conception: moon-eyed, dim-eyed; purblind: moon-struck; lu-

The moon shines bright: 'twas ev'ning a night as this,

When the sweet wind did gently kiss the trees,
And they did make no noise. *Shakspeare.*

How cam'st thou to be the siege of this moon-calf?
Id.

Thou hast by moonlight at her window sung,
With feigning voice, verses of feigning love. *Id.*

If you will patiently dance in our round,
And see our moonlight revels, go with us. *Id.*

Pinch him, and burn him, and turn him about,
Till candles, and starlight, and moonshine be out. *Id.*

I am some twelve or fourteen moonshines

Lag of a brother. *Id. King Lear.*

The division and quavering, which please so much in musick, have an agreement with the glittering of light, as the moon beams playing upon a wave.

Bacon's Natural History.

Diana hath her name from moisten, which is the property of the moon, being by nature cold and moist, and is feigned to be a goddess huntress.

Peucham.

Beneath the mighty ocean's wealthy caves,
Beneath the eternal fountain of all waves,
Where their vast court the mother waters keep,
And, undisturbed by moons, in silence sleep. *Cowley.*

Although it was a fair moonshine night, the enemy thought not fit to assault them. *Clarendon.*

Demoniack phrenzy, moping melancholy,
And moonstruck madness. *Milton's Paradise Lost.*

On the water the moon-beams played, and made it appear like floating quicksilver. *Dryden.*

And now four days the sun had seen our woes,
Four nights the moon beheld the incessant fire;

It seemed as if the stars more sickly rose,
And farther from the feverish North retire. *Id.*

Assisted by a friend, one moonless night,
This Palamon from prison took his flight. *Id.*

I, by the moonshine, to the windows went:
And, ere I was aware, sighed to myself. *Id.*

The potion works not on the part designed,
But turns his brain, and stupifies his mind;

The sotted moon-calf gapes. *Id. Juvenal.*

Moon-fish is so called, because the tail-fin is shaped like a half-moon, by which, and his odd trussed shape, he is sufficiently distinguished.

Grew's Museum.

Encountering fierce

The Solymeen sultan, he o'erthrew
His moony troops, returning bravely smeared

With Panim blood. *Philips.*
I went to see them in a moonshiny night. *Addison.*

The Soldan galls the Illyrian coast;
But soon the miscreant moony host

Before the victor-cross shall fly. *Fenton.*

What beckoning ghost along the moonlight shade
Invites my steps, and points to yonder glade? *Pope.*

The moon-trefoil hath a plain orbiculated fruit,
shaped like an half-moon. *Miller.*

The moon-seed hath a rosaceous flower: the pointal is divided into three parts at the top, and afterward becomes the fruit or berry, in which is included one flat seed, which is, when ripe, hollowed like the appearance of the moon. *Id.*

While thirteen moons saw smoothly run
The Nen's barge-laden wave,

All these, life's rambling journey done,
Have found their home—the grave. *Couper.*

'Tis sweet to hear
At midnight on the blue and moonlit deep

The song and oar of Adria's gondolier,
By distance mellowed, o'er the waters sweep.

Byron.

MOON, LUNA, in astronomy, one of the heavenly bodies often ranked among the planets; but more properly a satellite, or secondary planet. As all the other planets move primarily round the sun, so does the moon round the earth: her orbit is an ellipsis, in which she is retained by the force of gravity; performing her revolution round the earth, from change to change, in twenty-nine days, twelve hours, and forty-four minutes, and round the sun with it every year: she goes round her orbit in twenty-seven days, seven hours, and forty-three minutes, moving about 2290 miles every hour; and turns round her axis exactly in the time that she goes round the earth, which is the reason of her keeping always the same side towards us; and that her day and night taken together are as long as our lunar month. See ASTRONOMY, Index.

Among the ancients, the moon was an object of prime regard. By the Hebrews she was more regarded than the sun, and they were more inclined to worship her as a deity. The new moons, or first days of every month, were kept as festivals among them, which were celebrated with sound of trumpets, entertainments, and sacrifice. See Numb. xxviii. 11; x. 16; 1 Sam. xx. 5—18. People were not obliged on these days to rest. The feasts of new moons were the miniature representation of the feast of trumpets, which was held on the first of the month Tisri, which was the beginning of the civil year. The Jews, not being acquainted with the physical causes of eclipses, looked upon them, whether of sun or moon, as signs of the divine displeasure. The Grecians looked upon the moon as favorable to marriage; and the full moons or the times of conjunction of the sun or moon, were held the most lucky seasons for celebrating marriages; because they imagined the moon, to have great influence over generation. The full moon was held favorable for any undertaking by the Spartans; and no motives could induce them to enter upon an expedition, march an army, or attack an enemy, till the full of the moon. The moon was supposed both by Greeks and Romans to preside over child-birth. The patricians at Rome wore a crescent on their shoes, to distinguish them from the other orders of men. This crescent was called Ianula. Some say it was of ivory, others that it was worked upon the shoe, others that it was only a particular kind of fibula or buckle.

MOOR, *n. s.* } Sax. *more*; Teut. *mor*;
MOOR'COCK, } Goth. *moar*, *maer*; Belgic;
MOOR'FEN, } *moer*. Marsh-land; fen;
MOOR'ISH, *adj.* } dark boggy earth or soil:
MOOR'LAND, *n. s.* } moor-cock and hen are fen-
MOOR'STONE, } birds well known: moor-
MOOR'Y, *adj.* } stone, a species of granite:
moory, marshy; watery; applied to soils.

Let the marsh of Elsham Bruges tell,
What colour were their waters that same day,
And all the moor 'twixt Elversham and Dell.
Spenser.

Water-fowls, as seagulls and *moorhens*, when they flock and fly together from the sea towards the shores, foreshew rain and wind.
Bacon.

The dust the fields and pastures covers,
As when thick mists arise from moory vales.
Fairfax.

While in her girlish age she kept sheep on the moor, it chanced that a London merchant passing by saw her, and liked her, begged her of her poor parents, and carried her to his home.
Carew.

In the great level near Thorny, several oaks and firs have lain there till covered by the inundation of the fresh and salt waters, and moorish earth exaggerated upon them.
Hale.

In Essex, moory land is thought the most proper.
Mortimer.

In the south part of Staffordshire they go to the north for seed corn, and they of the north to the south, except in the moorlands.
Id. Husbandry.

The third stratum is of great rocks of moorstone and sandy earth.
Woodward on Fossils.

Or like a bridge that joins a marish
To moorlands of a different parish.
Swift.
Along the moorish fens

Sighs the sad genius of the coming storm.
Thomson.

Farewell old Coila's hills and dales,
Her heathy moors and winding vales.
Burns.

Now westlin winds, and slaughtering guns,
Bring autumn's pleasant weather;
The moorcock springs, on whirring wings,
Among the blooming heather.
Id.

MOOR, *n. s.* Ital. and Span. *moro*; Lat. *maurus*. A negro; a black man.

I shall answer that better than you can the getting-up of the negro's belly; the moor is with child by you.
Shakspeare.

MOOR, *v. a. & v. n.* Fr. *morer*. To fasten by anchor or otherwise; to be so fastened or made stationary.

Three more fierce Eurus in his angry mood
Dashed on the shallows of the moving sand,
And in mid ocean left them moored at hand.
Dryden.

Æneas gained Cajeta's bay:
At length on oozy ground his gallees moor,
Their heads are turned to sea, their sterns to shore.
Id.

My vessel, driven by a strong gust of wind,
Moored in a Chian creek.
Addison's Ovid.

He visited the top of Taurus and the famous Ararat, where Noah's ark first moored.
Arbuthnot and Pope's Mart. Scrib.

MOOR (Sir Karel), or Sir Charles, de, a painter of portraits, history, and conversations, born at Leyden in 1656; and a disciple of Gerard Douw, with whom he continued for a considerable time. He afterwards studied successively under Abraham Vanden Tempel, Francis Mieris, and Godfrey Schacken. He painted the portraits of prince Eugene and the duke of Marlborough on horseback; a picture for which he was created a knight of the Roman empire. He likewise painted the portrait of Peter the Great of Muscovy; and an extraordinary number of other portraits, for which he received great prices. He died in 1738.

MOOR, a town of South-West Hungary, unfortunately subject to earthquakes; in January and February 1810 a repetition of shocks threw down towers, dried up the wells, opening new springs, and producing fissures in the earth, which, though but a foot in width, extended to the length of sixty and even 100 fathoms. Inhabitants 2500. Fifteen miles N. N. W. of Stuhl-Weissenberg.

MOOR LAND, or moory soil, in agriculture, is a black, light, and soft earth, very loose, without

any admixture of stones, and with very little clay or sand. The uppermost stratum of the fen lands is usually of this earth, and it commonly constitutes a moderately thick or deep bed. Intermixed with water it cannot easily be worked up into a paste; and, when with labor worked up into somewhat of a firm mass, its surface appears spongy and porous; and, as soon as dry, it easily moulders away to powder. It is usually soft to the touch, unless it be worked very closely between the fingers; then it shows a mixture of a small quantity of sand, both to the touch and to the eye. It seems indeed to consist almost entirely of pure vegetable matter; and this, lying in such plenty on the surface of the fen-lands, is the cause of their being so very fertile. The great disadvantage of the places which have this soil is their being liable to be glutted with wet. To remedy the inconveniences thence arising, the farmers who rent these lands burn the soil at proper seasons. It burns very freely and easily, the surface readily catching flame; and a substance somewhat bituminous, usually contained among the soil, assists the burning.

MOORE (John), M. D., author of *Travels through France and Italy*, of *Zeluco*, a novel, &c. The style of his travels is a model of ease and perspicuity; and in the construction of *Zeluco*, there are a strength, originality, and true coloring, which will render it a lasting monument of national genius. He died at his house at Richmond, February 20th, 1802. His private character as a man was as good as his public one as an author was great. His early and liberal patronage of Burns affords a specimen of his sensibility as well as of his taste.

MOORE (lieutenant-general Sir John), eldest son of the preceding, was born at Glasgow 13th of November 1761. At the age of fifteen he entered the army as an ensign of the fifty-first regiment, and in 1790 was made a lieutenant-colonel. He afterwards served in Corsica, where he was wounded. He accompanied Sir Ralph Abercrombie in 1796 to the West Indies, as brigadier general, and, having assisted in the capture, was appointed governor of St. Lucia. The following year he was employed in Ireland, where he was promoted to the rank of major-general. In 1799 he went to Holland, where he was severely wounded; and was subsequently engaged and again wounded in the expedition to Egypt. He was made a knight of the Bath, after his return to England; and in 1808 commanded a body of troops sent to the assistance of the adventurous Gustavus IV. of Sweden, but he became involved in a dispute with that prince, who placed him under arrest, from which, however, he extricated himself and returned home. In October this year he landed in Spain, at the head of an English army; but after advancing some distance, and meeting with little support from the Spaniards, he felt obliged to retreat before a superior body of the French to Corunna, where was fought the celebrated battle of that name (see *CORUNNA*), on the 16th of January 1809, when the general was killed by a cannon-ball, and interred on the field of battle.

MOORING, the act of confining and securing

a ship in a particular station, by chains or cables, which are either fastened to the adjacent shore, or to anchors in the bottom. A ship may be either moored by the head, or by the head and stern: i. e. she may be secured by anchors before her, without any behind; or she may have anchors out, both before and behind her; or her cables may be attached to posts, rings, or moorings, which answer the same purpose. When a ship is moored by the head with her own anchors, they are disposed according to the circumstance of the place where she lies, and the time she is to continue therein. Thus, wherever a tide ebbs and flows, it is usual to carry one anchor out towards the flood, and another towards the ebb, particularly where there is little room to range about; and the anchors are laid in the same manner, if the vessel is moored head and stern in the same place. The situation of the anchors, in a road or bay, is usually opposed to the reigning winds, or those which are most dangerous; so that the ship rides therein with the effort of both her cables. Thus, if she rides in a bay, or road, which is exposed to a north wind and heavy sea from the same quarter, the anchors passing from the opposite bows ought to lie east and west from each other: hence both the cables will retain the ship in her station with equal effort against the action of the wind and sea.

MOORINGS, in sea language, are usually an assemblage of anchors, chains, and bridles, laid athwart the bottom of a river or haven, to ride the shipping contained therein. The anchors employed on this occasion have rarely more than one fluke, which is sunk in the water near low-water mark. Two anchors being fixed in this manner, in the opposite side of the river, are furnished with a chain extending across from one to the other. In the middle of the chain is a large square link, whose lower end terminates in a swivel, which turns round in the chain as about an axis, whenever the ship veers about with the change of the tide. To this swivel-link are attached the bridles, which are short pieces of cable, well served, whose upper ends are drawn into the ship at the mooring ports, and afterwards fastened to the masts or cable-bolts. A great number of moorings of this sort are fixed in the harbours adjacent to the king's dock-yards, as Deptford, Chatham, Portsmouth, Plymouth, &c.

MOORLANDS, a tract so called in the north part of Staffordshire, where the land rises gradually into small hills, which run through the midst of England in one continued ridge, rising higher and higher to Scotland, and sending forth many rivers. The soil here is so foul and cold that the snows lie almost all the year on the tops of the hills; and it is withal very rugged and barren: it, however, yields plenty of coal, lead, copper, rance-marble, and mill-stones; and some of the limestone hills bear a sweet though short grass, very grateful to the oxen, of which there is a very good breed.

MOORS. See *MOROCCO*.

Moors, in the Isle of Man, those who summon the courts for the several sheadings; such as the lords bailiffs. The office is similar to that of bailiff of the hundred.

MOORSHUDABAD, a city of Bengal, and the capital of that province during about half the eighteenth century. It was originally called Mukhsosabad.

Including Cossimbazar this place extends eight miles along the eastern bank of the Bhagirutty River, about 129 miles above Calcutta. The houses have seldom above one story, and tiled roofs; the streets are narrow and dirty; but the nabob's palace, which has been lately rebuilt, and the imambury and mosques are in good condition. It is also the residence of the British civil establishment, and a judicial court of circuit. It was plundered by the Mahrattas in 1742, but still carries on a considerable trade in silk, raw and manufactured; and, notwithstanding the river is nearly dry during six months, the surrounding district is very fertile. During the rainy season it is subject to inundation, which has frequently rendered the city unhealthy.

MOOSSO, a town of Southern Africa, to the north of Leetakoo, and capital of a tribe called the Murahlongs. It is said to be much larger than Leetakoo, and to contain from 10,000 to 12,000 inhabitants.

MOOT, *v. a. & adj.* Lat. *motari*; Goth. *motā*, *motgian*, to encounter. To dispute; plead: hence to state a point of law by way of exercise, as was commonly done in the inns of court: a moot case or point is a point or case unsettled and disputable.

In this *moot case* your judgment to refuse, Is present death. *Dryden's Juvenal.*

Would you not think him cracked, who would require another to make an argument on a *moot point*, who understands nothing of our laws?

Locke on Education.

Let us drop both our pretences; for I believe it is a *moot point*, whether I am more likely to make a master Bull, or you a master Strutt.

Arbuthnot's History of John Bull.

MOP, *n. s. & v. a.* Wel. *moppa*; Lat. *mappa*. A flocky household utensil, used with a long handle: to mop is to take up or clean with a mop.

Such is that sprinkling which some careless quean Flirts on you from her *mop*, but not so clean. You fly, invoke the gods; then turning, stop To rail; she singing, still whirls on her *mop*.

Swift.

MOP, *v. n.* Either from Mock, as Dr. Johnson conjectures: or Mourn, which see. To make wry mouths in contempt.

Each one tripping on his toe Will be here with *mop* and mow.

Shakspeare.

Fire fiends have been in poor Tom at once; of lust, as Obdicut; Hobbididen, prince of dumbness; Mahu, of stealing; Mohu, of murder; and Flibbertigibbet, of *mopping* and mowing, who since possesses chamber-maids. *Id.*

An ass fell a *mopping* and braying at a lion.

L'Estrange.

MOPE, *v. n. & v. a.* } Barb. Lat. *mopus*, of
MOPUS, *n. s.* } *myops*. To be stupid; inactive; drowsy: to make stupid or spiritless.

What a wretched and peevish fellow is this king of England, to *mope* with his fat-brained followers.

Shakspeare.

Even in a dream, were we divided from them, And were brought *moping* hither. *Id.*

Josiah is not *moped* with a distractive grief, or an astonishing fear; but, in the height of his passion, sends five choice messengers to Huldah the prophetess, to enquire of the Lord, for himself, for Judah. *Bp. Hall.*

Intestine stone, and ulcer, cholick pangs, Demoniack frenzy, *moping* melancholy, And moon-struck madness.

Milton's Paradise Lost.

They say there are charms in herbs, said he, and so he threw a handful of grass; which was so ridiculous, that the young thief took the old man to be *moped*. *L'Estrange.*

Severity breaks the mind: and, then in the place of a disorderly young fellow, you have a low-spirited *moped* creature. *Locke.*

The busy craftsmen and o'erlaboured hind Forget the travel of the day in sleep; Care only wakes, and *moping* pensiveness; With meagre discontented looks they sit, And watch the wasting of the midnight taper.

Rowe.

I'm grown a mere *mopus*; no company comes But a rabble of tenants. *Swift's Miscellanies.*

MOP/PET, *n. s.* } From *mop*. A puppet
MOP'SEX. } made of rags; a doll; a little girl.

Our sovereign lady: made for a queen? With a globe in one hand, and a sceptre in the other?

A very pretty *moppet!* *Dryden's Spanish Fryar.*

MOPSY, in fabulous history, a celebrated prophet, son of Apollo, by Manto, the daughter of Tiresias, who flourished about the time of the Trojan war. After death he was ranked among the gods, and had an oracle at Malia, celebrated for the true and decisive answers which it gave.

Mopsus, the son of Ampyx and Chloris, born at Titaressa in Thessaly. He was the prophet and soothsayer of the Argonauts, and died at his return from Colchis, by the bite of a serpent in Libya. Jason erected a monument to him on the sea-shore, where afterwards Africanus built a temple where he gave oracles. He has often been confounded with the son of Manto, as their professions and their names were the same.

MOQUEBAH, a province and town of Peru, sixteen leagues from the Pacific Ocean. The province though cold, is fertile in wine, brandy, and olives. It is forty-two leagues long. The town is situated at the foot of the Cordillera in a pleasant valley, and has a good church and several convents. It suffered severely by an earthquake in 1715. Population 6000: seventy miles south of Arequipa.

MORADABAD, a considerable town of Hindostan in the province of Delhi, and district of Bareilly. It is delightfully situated on the Ramgonga River, and the houses are generally built of stone or brick, two or three stories high. It formerly was the residence of one of the Rohilla chiefs, and had a mint. It is now the station of the British civil establishments. Long. 78° 45' E., lat. 28° 52' N.

MORÆA, in botany, a genus of the monogynia order and triandria class of plants, natural order sixth, ensatæ: cor. hexapetalous; the three interior petals patent, the rest like those of the iris.

MORAI, the name given at Otaheite to the burying-grounds, which were also places of worship, and consisted of a pile of stone raised pyramidically upon an oblong base or square 267 feet long and eighty-seven wide. On each side was a flight of steps; those at the sides being broader than those at the ends; so that it terminated not in a square of the same figure with the base, but in a ridge like the roof of a house. There were eleven of these steps to one of these morais, each four feet high, so that the height of the pile was forty-four feet; each step was formed of one course of white coral stone, neatly squared and polished; the rest of the mass (for there was no hollow within) consisted of round pebbles. The foundation was of rock stones, also squared. In the middle of the top stood an image of a bird carved in wood, and near it the broken one of a fish carved in stone. The whole of this pyramid made part of one side of a spacious area or square 360 feet by 354, walled in with stone, and paved with flat stones in its whole extent. About 100 yards to the west of this building was another paved area or court, in which were several small stages raised on wooden pillars about seven feet high, called by the Indians *ewattas*, and seem to be a kind of altars, as upon these were placed provisions of all kinds, as offerings to their gods. On some of them were seen whole hogs, and on others the skulls of above fifty, besides the skulls of many dogs. The male deities (for they had them of both sexes) were worshipped by the men, and the female by the women; and each had morais, to which the other sex was not admitted.

MOR'AL, *adj.*, *n. s.* & *v. n.* } Fr. *morale* ;
 MOR'ALIST, *n. s.* } Lat. *moralis*. Re-
 MORAL'ITY, } lating to duty;
 MOR'ALIZE, *v. a.* & *v. n.* } or to the practice
 MOR'ALLY, *adv.* } of man in regard
 MOR'ALS, *n. s.* } to virtue or vice ;
 virtuous: belonging to manners; and hence, according to the customary manner; popular; such as is generally admitted, as in the phrase 'a moral certainty': a moral is a doctrine or general duty inculcated in a fable; and the word is used by Prior, after the French, for morality: to moral, by Shakspeare for to moralize: a moralist is a teacher of human duties: morality, ethics; the science of morals or MORAL PHILOSOPHY, see the article: to moralize, to explain or apply in a moral sense; to speak or write on moral subjects: morally, ethically; virtuously; popularly, or as generally understood: morals, used only in the plural in this sense; behaviour in respect to others; practice in regard to vice or virtue.

Fierce warres and faithful loves shall *moralize* my
 song. *Faerie Queene.*

Keep at the least within the compass of *moral*
 actions, which have in them vice or virtue. *Hooker.*

In *moral* actions divine law helpeth exceedingly
 the law of reason to guide life, but in supernatural
 it alone guideth. *Id.*

France spreads his banners in our noiseless land,
 With plumed helm thy slayer begins his threats,
 Whilst thou, a *moral* fool, sit'st still and criest.

Shakspeare.

Benedictus! why *benedictus*? you have some
moral in this *benedictus*.

—*Moral!* No, by my troth I have no *moral* mean-
 ing; I meant plain holy thistle. *Id.*

When I did hear
 The motley fool thus *moral* on the time,
 My lungs began to crow like chanticleer,
 That fools should be so deep contemplative. *Id.*

Did he not *moralize* this spectacle?
 —O, yes, into a thousand similies. *Id.*

We may too certainly conclude, that much more
 than a single act of contrition, and a *moral* revoca-
 tion, that is, a sorrow and a nolition of the past
 sins, may be done upon our death bed without effect,
 without a being accepted to pardon and salvation.

Jer. Taylor.

Physical and mathematical certainty may be stiled
 infallible; and *moral* certainty may properly be stiled
 indubitable. *Wilkins.*

I am from the nature of the things themselves
morally certain, and cannot make any doubt of it,
 but that a mind free from passion and prejudice is
 more fit to pass a true judgment than such a one as
 is biased by affections and interests. *Id.*

Mathematical things are capable of the strictest
 demonstration; conclusions in natural philosophy
 are capable of proof by an induction of experi-
 ments; things of a *moral* nature by *moral* argu-
 ments; and matters of fact by credible testimony. *Tillotson.*

Now, brandished weapons glittering in their
 hands,
 Mankind is broken loose from *moral* bands;
 No rights of hospitality remain,
 The guest, by him who harboured him, is slain. *Dryden.*

The *moral* is the first business of the poet, as being
 the groundwork of his instruction; this being formed,
 he contrives such a design or fable as may be most
 suitable to the *moral*. *Id. Dufresnoy.*

To take away rewards and punishments is only
 pleasing to a man who resolves not to live *morally*. *Dryden.*

It is *morally* impossible for an hypocrite to keep
 himself long upon his guard. *L'Estrange.*

This fable is *moralized* in a common proverb. *Id.*

Because this, of the two brothers killing each
 other, is an action *morally* unnatural; therefore, by
 way of preparation, the tragedy would have begun
 with heaven and earth in disorder, something physi-
 cally unnatural. *Rymer.*

We have found, with a *moral* certainty, the seat
 of the Mosaical abyss. *Burnet's Theory of the Earth.*

That they may quit their *morals* without any dis-
 credit to their intellectuals, they fly to several stale,
 trite, pitiful objections and cavils. *South.*

The *morality* of an action is founded in the free-
 dom of that principle, by virtue of which it is in the
 agent's power, having all things ready and requisite
 to the performance of an action, either to perform or
 not perform it. *Id. Sermons.*

By good, good *morally* so called, bonum honestum,
 ought chiefly to be understood; and that the good of
 profit or pleasure, the bonum utile or jucundum,
 hardly come into any account here. *South.*

Some, as corrupt in their *morals* as vice could make
 them, have yet been solicitous to have their children
 soberly, virtuously, and piously brought up. *Id. Sermons.*

The advice given by a great *moralist* to his friend
 was, that he should compose his passions; and let

that be the work of reason, which would certainly be the work of time.

Addison.

Their moral and œconomy,

Most perfectly they made agree. *Prior.*

High as their trumpets tune his lyre he strung,

And with his prince's arms he moralized his song.

Id.

The concurring accounts of many such witnesses render it *morally*, or, as we might speak, absolutely impossible that these things should be false.

Atterbury's Sermons.

Learn then what *morals* critics ought to show :

'Tis not enough wit, art, and learning join ;

In all you speak, let truth and candour shine.

Pope.

All nations have agreed in the necessity of a strict education, which consisted in the observance of *moral* duties.

Swift.

The system of *morality*, to be gathered out of the

writings of ancient sages, falls very short of that delivered in the gospel.

Id. Miscellany.

I found a *moral* first, and then studied for a fable, but could do nothing that pleased me.

Id.

A *moral* universality, is when the predicate agrees to the greatest part of the particulars which are contained under the universal subject.

Watts.

A necessity of sinning is as impossible in *morality*, as any the greatest difficulty can be in nature.

Baker on Learning.

There is nothing that God has judged good for us that he has not given us the means to accomplish both in the natural and *moral* world.

Burke.

From heaven, he cried, descends the *moral* plan ; And gives society to savage man.

Darwin.

Every one must see and feel, that bad thoughts quickly ripen into bad actions ; and that if the latter only are forbidden, and the former left free, all *morality* will soon be at an end.

Porteus.

MORAL PHILOSOPHY.

MORAL PHILOSOPHY. 'Ethics,' says Mr. Locke, 'is the seeking out those rules and measures of human actions which lead to happiness, and the means to practise them. The end of this is not bare speculation and the knowledge of truth ; but right, and a conduct suitable to it.' 'Moral philosophy,' says Dr. Hutcheson, 'which is the art of regulating the whole of life, must have in view the noblest end ; since it undertakes, as far as human reason can go, to lead us into that course of life which is most according to the intention of nature, and most happy : to which end whatever we can obtain by other arts should be subservient. And since all philosophers, even of the most opposite schemes, agree, in words at least, that happiness either consists in virtue and virtuous offices, or is to be obtained and secured by them, the chief points to be enquired into in morals must be, what course of life is according to the intention of nature ? wherein consists happiness ? and what is virtue ?' 'Moral philosophy (Encyclopædia Britannica) is the science of manners or duty ; in other words, it is the knowledge of our duty and felicity, or the art of being virtuous and happy. It is denominated an art, as it contains a system of rules for becoming virtuous and happy. It is likewise called a science, as it deduces those rules from the principles and connexions of our nature, and proves that the observance of them is productive of our happiness. It is an art and a science of the highest dignity, importance, and use. Its object is man's duty, or his conduct in the several moral capacities and connexions which he sustains. Its office is to direct that conduct ; to show whence our obligations arise, and where they terminate. Its use, or end, is the attainment of happiness ; and the means it employs are rules for the right conduct of our moral powers.' 'Moral philosophy, morality, ethics, casuistry, natural law,' says the plain practical Paley, 'mean all the same thing, namely, that science which teaches men their duty and the reasons of it.' 'The science of ethics,' says Dr. Brown (lecture LXXIII.), 'has relation to our affections of mind, not simply as phenomena, but as virtuous or vicious, right or wrong.'

More of these definitions have been proposed which, as Dr. Paley says concerning the distinctions of virtue, it is not worth while to set down. We will merely add, as a kind of curiosity, the correction of the doctor's definition attempted by the Unitarian triumviri the Rev. W. Shepherd, the Rev. J. Joyce, and the Rev. Lant Carpenter, LL. D., in their Systematic Education. 'Precision of language and correctness of thought,' they inform us, 'are so dependent upon one another, that it may be worth while to point out a singular error into which that eminently useful writer Dr. Paley has fallen in his very first sentence. 'Moral philosophy, morality, ethics, casuistry, natural law,' he says, 'mean all the same thing, namely, that science which teaches men their duty, and the reasons of it : ' but he is undoubtedly wrong ; moral philosophy is the science of morals : it investigates the grounds and reasons of duty : it traces that quality of actions and dispositions which renders them obligatory upon a reasonable being like man : it shows what classes of actions and dispositions possess this quality : it ascertains by this means the best rule of life : and it lays down those principles by the aid of which the rule of life may be most successfully applied. The terms ethics and morals, though correctly applied to the science, are more appropriate to the art of morality (understanding by the word art, as opposed to science, a system of rules for the proper attainment of any end) ; and in this sense the terms are not strictly applicable to investigations respecting the grounds and reasons of duty. Nevertheless the art of morals can scarcely fail to include some reasoning respecting its foundation and principles, just as the science of morals can scarcely fail to include, in some measure, the preceptive part. Morality commonly refers to the quality of an action or disposition which makes it the subject of reward or punishment ; but it is also used (as when we speak of a system of morality) in reference to the art of morals. Casuistry has for its sole object the difficulties of duty, and classes sometimes with the science, and sometimes with the art of morals. It often requires subtle investigations,

and nice and refined distinctions; and, when it is not regulated by an invariable attention to the grand principles of morality, it often leads to great intricacy and perplexity. Such discussions have indeed not unfrequently led, through the sophistry of vanity or self-justification, to opinions which confound all moral distinctions. The moral reasoner must have some fixed points of duty, and when he has seen that these have a solid foundation in the nature of the human mind, and the circumstances of man, he ought on no account to give them up. If any opinions are in clear opposition to them, the principles on which those opinions are founded should be regarded as absurd, if not practically dangerous.

‘The term natural law denotes that system of duty which is derived from considerations independent, or supposed to be independent, of divine revelation, or the law of God.’

We hope the reader can make something out of all this elaborate correction of Paley’s singular error, by critics of extraordinary precision of language and correctness of thought. If however he be disposed with us to prefer the error to the correction, perhaps he will consent to the following slight modification of Paley’s statement:—Moral philosophy, morality, ethics, casuistry, natural law, in so far as they mean any thing, mean much the same thing, and relate to the duty of men and the reasons of it. This is at least better than unmeaning petty refinements, destitute of even the semblance of logical and moral analysis. We must not however tarry longer at the threshold, but proceed to the object proposed, which is not to compile or construct a system of moral philosophy, but to give a view of the systems which have been attempted. Of course we can advert only to the more eminent treatises and theories of morals: and here the ancient moral philosophers claim some attention, but we will dispose of them as quickly as possible, that we may reserve more space for those of modern times.

Socrates is universally regarded as the father of moral philosophy; and, as some one remarks, he is decidedly the hero of all the Ciceros and declaimers upon morality; yet, after all that has been said and sung to his memory, we may, in allusion to his own modest confession of ignorance, truly profess to know only this—that we know almost nothing about him, and still less about his moral philosophy. We are told that, observing with regret how much the opinions of the Athenian youth were misled by philosophers who spent all their time in refined speculations concerning nature and the origin of things, and by sophists who taught in their schools the arts of false eloquence and deceitful reasoning, he formed the wise and generous design of instituting a new and more useful method of instruction, and assumed the character of a moral philosopher: that he estimated the value of knowledge by its utility, and recommended the study of geometry, astronomy, and other sciences, only so far as they admit of a practical application to the purposes of human life: that his great object, in all his conferences and discourses, was to lead men to an acquaintance with themselves, to convince them of their follies and vices, and to fur-

nish them with useful moral instruction. All this was very good and laudable; and Cicero awards the praise to Socrates of being the first who called down philosophy from heaven to earth, and introduced her into the public walks and domestic retirements of men, that she might instruct them concerning life and manners.

The system of morality which Socrates made it the business of his life to teach is said to have been raised on the firm basis of religion. But what that firm basis of religion was, it is difficult, or rather impossible, to ascertain, amidst the obscure, doubtful, and conflicting statements respecting it which have come down to our times.

The first principles of virtuous conduct are, according to Socrates, common to all mankind, and therefore laws of God, which cannot be violated with impunity. ‘It is frequently possible (Memorabilia of Socrates by Xenophon) for men to screen themselves from the penalty of human laws; but no man can be unjust or ungrateful without suffering for his crime: hence I conclude that these laws must have proceeded from a more excellent legislator than man.’

It is probable that the moral theory of Socrates was much the same as that of Shaftesbury and Hutcheson, and that the opinions which he uttered in his discourses were variously modified and worked up into those fine sentiments about virtue which were flourished in the speeches and writings of subsequent moralists, and particularly the stoics.

If we can glean little satisfactory information from the literary remains of antiquity respecting Socrates, we are equally unsuccessful as to the moral philosophy of his illustrious pupil Plato, who, if he received any sound principles from his moral master, took good care to conceal them from the perception of the profane vulgar. The most notable particulars of his moral doctrine are such as the following:—Our highest happiness consists in the knowledge and contemplation of the first good, which is mind or God. All those things which are called good by men are in reality such only so far as they are derived from the first and highest good. The only power in human nature which can acquire a resemblance to the supreme God is reason. The minds of philosophers are fraught with valuable treasures; and, after the death of the body, they shall be admitted to divine entertainments; so that whilst, with the gods, employed in surveying the fields of truth, they will look down with contempt upon the folly of those who are contented with earthly shadows. Goodness and beauty consist in the knowledge of the first good and the first fair. That only which is becoming is good: therefore virtue is to be pursued for its own sake; and, because it is a divine attainment, it cannot be taught, but is the gift of God. He alone who has attained the knowledge of the first good is happy. The end of this knowledge is to render men as like to God as the condition of human nature will permit. This likeness consists in prudence, justice, sanctity, temperance. In order to attain this state it is necessary to be convinced that the body is a prison, from which the soul must be released before it can arrive at the

knowledge of those things which are real and immutable. Virtue is the most perfect habit of mind which adorns the man, and renders him firm, resolute, and consistent, in action and speech, in solitude and society. The virtues are so nearly allied that they cannot be separated; they are perfect, and therefore neither capable of increase nor of diminution. The passions are motions of the soul excited by some apparent good or evil: they originate in the irrational parts of the soul, and must be regulated and subdued by reason. This is perhaps sufficient as a specimen of the wisdom and philosophy of Plato. Those who wish for more may consult his writings, Brucker's *Historia Critica Philosophiæ*, or its abridgment by Enfield.

After Plato some notice is due to his disciple Aristotle, who was not so mystical, and more acute and subtle, as well as more profound and comprehensive than his master. It is very difficult, however, to extract any thing definite, intelligible, or useful, from his writings. The following is a brief enumeration of his more remarkable notions about morals:—Felicity consists neither in the pleasures of the body, nor in riches, nor in civil honor, power, or rank, nor in the contemplation of truth, but in the virtuous exercise of the mind. A virtuous life is in itself a source of delight; external good, such as friends, riches, power, beauty, and the like, are instruments or means by which illustrious deeds may be performed. Virtue is either theoretical, or practical: theoretical virtue consists in the due exercise of the understanding; practical, in the pursuit of what is right and good. Practical virtue is acquired by habit and exercise.

Virtue, as far as it respects ourselves, and the government of the passions, consists in preserving that mean in all things which reason and prudence prescribe; it is the middle path between two extremes, one of which is vicious through excess, the other through defect. Virtue is a spontaneous act, the effect of design and volition. It is completed by nature, habit, and reason. The first virtue is fortitude, which is the mean between timidity and rash confidence. Temperance is the mean between the excessive pursuit and the neglect of pleasure. Liberality is the mean between prodigality and avarice. Magnificence preserves a due decorum in great expenses, and is the mean between haughty grandeur and low parsimony. Magnanimity respects the love of applause, and the judgment a man forms of his own merit; and holds the middle place between meanness of spirit and pride. Moderation respects distinction in rank, and is the mean between ambition and the contempt of greatness. Gentleness is the due government of the irascible passions, and observes a proper medium between anger and insensibility. Affability respects the desire of pleasing in the ordinary occurrences of life, and pursues the middle path between moroseness and servility. Simplicity in the practice of virtue is the mean between arrogant pretensions to merit, and an artful concealment of defects. Urbanity respects sports and jests, and avoids rusticity and scurrility. Modesty is a certain apprehension of incurring disgrace, and lies in the middle between

impudence and bashfulness. Justice includes the observance of the laws for the preservation of society, and the discharge of obligations and debts between equals. Equity corrects the rigor of laws, or supplies their defect. Friendship is nearly allied to virtue; it consists in perfect affection towards an equal. Friendships are formed for the sake of pleasure, convenience, or virtue. Friendship is cherished by mutual acts of generosity; it is begun in kindness, and preserved by concord; its end is the pleasant enjoyment of life. Pleasures are essentially different in kind: Disgraceful pleasures are unworthy of the name. The purest and noblest pleasure is that which a good man derives from virtuous actions. Happiness, which consists in a conduct conformable to virtue, is either contemplative or active. Contemplative happiness, which consists in the pursuit of knowledge and wisdom, is superior to active happiness, because the understanding is the higher part of human nature, and the objects on which it is employed are of the noblest kind. The happiness which arises from external possessions is inferior to that which arises from virtuous actions; but both are necessary to produce perfect felicity. This may serve as a specimen of the moral philosophy which is to be found in Aristotle's book of Ethics, in his Greater Morals, and his discourse on the Virtues. The remarks (for they cannot be called principles or reasonings), are miserably poor philosophically considered; yet they have sufficient semblance of truth and excellence to catch even aged boys; and the reader must be able to recognise them as familiar acquaintances; for they have been much hackneyed. Virtue, as consisting in the golden mean between two extremes, has had many admirers, and has been presented under very many forms and aspects. All the world has heard of the sapience of Socrates, and without all controversy he must have possessed much more moral wisdom than Plato or Aristotle, both of whom, like some modern moral philosophers, were much fonder of metaphysics than of ethics; and, like these too, they were very apt to get beyond their depth.

As a sort of middle link, between the moral philosophy of Socrates and that of the Stoics, some notice may be taken of the doctrine of the Cynics, so designated, it would seem, from the snarling severity of their temper, in which they gloried as the point of honor, or distinguishing peculiarity of their sect. Yet there were some good points about them, and their moral maxims and wise saws will bear an advantageous comparison with those of any of the ancient sages.

'Virtue,' say they, 'alone is a sufficient foundation for a happy life. Virtue consists not in a vain ostentation of learning, or an idle display of words, but in a steady course of right conduct. Wisdom and virtue are the same: a wise man will always be contented with his condition, and will live rather according to the precepts of virtue, than according to the laws or customs of his country. Wisdom is a secure and impregnable fortress; virtue, armour which cannot be taken away. Whatever is honorable is good; whatever is disgraceful is evil. Virtue is the only bond of friendship. It is better to associate with a few good men against the vicious multitude, than

to join the vicious, however numerous, against the good. The love of pleasure is a temporary madness. As rust consumes iron, so does envy consume the heart of man. That state is hastening to ruin in which no difference is made between good and bad men. The harmony of brethren is a stronger defence than a wall of brass. A wise man converses with the wicked as a physician with the sick, not to catch the disease, but to cure it. The most necessary part of learning is to unlearn our errors. A philosopher gains at least one thing from his manner of life, the power of conversing with himself. Virtue of mind, as well as strength of body, is chiefly to be acquired by exercise and habit. Nothing can be accomplished without labor, and every thing may be accomplished with it. Even the contempt of pleasure may, by the force of habit, become pleasant. All things belong to wise men to whom the gods are friends. The ranks of society originate from the follies and vices of mankind, and are therefore to be despised. Laws are necessary in a civilised state; but the happiest condition of human life is that which approaches the nearest to a state in which all are equal, and the only ground of distinction is virtue. The end of philosophy is to subdue the passions, and prepare for every condition of life.

There is something of a mental and moral elevation about these maxims, and they are manifestly the rudiments of all the doctrines of the Stoics. They are ascribed to Antisthenes and Diogenes; and there can be no reasonable doubt that many things reported of these Cynics unfavorable to their reputation were mere calumnies, invented and propagated by malignity. They might offend such a sickly sense of propriety as that of their Grecian contemporaries without rudeness and insolent brutality.

The Stoics (thus designated from the Greek word *stoa*, the portico or porch of their school, said to have been the most famous in Athens), at the head of whom stands Zeno, the founder of the sect, are to be considered as the Cynics under a new name and different modification of doctrine and discipline. But it is difficult to give a brief statement of their moral philosophy. Like the other ancient philosophers, they were much perplexed with the great question concerning the origin of evil. Some of them adopted the notion of the Platonists, and ascribed it to the evil or perversely refractory nature of matter, which it was not in the power of the Great Artificer to change; but most of them attempted to relieve the difficulty by having recourse to fate, saying that evil was the necessary consequence of that eternal necessity, to which the great Whole, comprehending both God and matter, is subject. Indeed the sturdy Stoic had another method of getting rid of the difficulty and of evading the notion; or, at least the admission of evil altogether; for that pain was not an evil he would utter with a groan extorted by the force of suffering.

It was their fundamental doctrine in ethics, that one ultimate end ought, for its own sake, to be pursued; and that this end was to live agreeably to nature, or to be conformed to the law of fate by which the world is governed. Strange

things were propounded and asserted by them on this head; such as that we should yield to the impressions of nature, contemplate truth, and imitate God, by making the eternal reason and immutable law of the universe the rule of our actions; that to live according to nature is virtue, and virtue is happiness; that every man, having within himself a capacity of discerning and following the law of nature, has his happiness in his own power, and is a divinity to himself; that external things contribute nothing towards happiness, and therefore are not in themselves good; that pain, which does not belong to the mind, is no evil; that the wise man will be happy in the midst of torture; that every virtue being a conformity to nature, and every vice a deviation from it, all virtues and vices are equal; that the real wise man (a sort of beau ideal man of the Stoical brain), feels neither pleasure nor pain; that he exercises no pity; that he is free from faults; that he is divine; that he can neither deceive nor be deceived; and much more of the same sort which it is not worth while to set down.

The Stoics distinguished duties into three classes (and the same distribution of them is almost universally adhered to in modern times), as they respect God, ourselves, and our fellow-creatures. The duties of religion are, to think justly concerning God, and to worship him piously. He thinks justly of God who believes him to be the supreme director of human affairs, and the author of all that is good or fitting in human life. He worships God piously who reveres him above all beings; who perceives and acknowledges him in all events; who is in every thing resigned and obedient to his will; who patiently receives whatever befalls him, from a persuasion that whatever God appoints must be right; and who cheerfully follows wherever Divine Providence leads him, even though it be to suffering and death.

The sum of man's duty towards himself is, to subdue his passions of joy and sorrow, hope and fear, and even pity. He who is, in this respect, perfectly master of himself is a wise man; and in proportion as we approach a state of apathy we advance towards perfection. Virtuous self-command consists not in preventing the casual impressions of external objects upon the senses, in which the mind is rather passive than active; but in not giving a voluntary assent to those passions which external objects excite. A wise man may justly and reasonably withdraw from life whenever he finds it expedient; not only because life and death are among those things which are in their nature indifferent, but because life may be less consistent with virtue than death. Since all duty arises from a conformity to nature, it may happen that a man may be in such circumstances, that to remain in life may be more contrary to nature than to depart. A wise man will, at the close of every day, take a retrospective survey of his words and actions, that he may confess his errors and amend. The first and noblest exercise of wisdom is to examine ourselves, and regulate our dispositions and actions by the law of virtue. Hence will arise self-denial, and a contempt of pleasure. A wise man will never suffer himself to be diverted from his duty by any prospect of

indulgence, or any fear of loss, pain, or death.

The duty we owe to others is to love all men, even our enemies. A good man will love his neighbour, will abstain from injuring him, and take pleasure in protecting, assisting, and benefiting him. He will not think that he is born for himself, but for the common good of mankind. He will consider himself sufficiently rewarded by the consciousness of well-doing, and will never cease to do good, though he may have no witness of his deeds or prospect of receiving any applause or recompense for his beneficence. The wise man never remits the punishment due to a criminal through pity, which is a weakness not to be indulged; but, in cases where reason suggests sufficient grounds for clemency, he will not treat a delinquent with rigor. He will relieve the sick, assist the shipwrecked, afford protection to the exile, or supply the hungry with food, but with an undisturbed mind and a serene countenance; disdaining all sorrow arising from sympathy, as well as from personal sufferings. No one is more ready than the wise man to exercise lenity and benignity, and to attend to the welfare of those around him, and the general interest of mankind.

There is in all this perhaps not a little extravagance and absurdity; and something of very mischievous moral tendency; but there is much also truly excellent and noble,—‘good and profitable’ to men. And when we consider the peculiar circumstances of the ages in which the stoical doctrines chiefly flourished, which presented every where around the few reflective and contemplative minds privileged with something of right thought and good feeling, a cold and gloomy despotism, that permitted them only to gaze on misery if they did not strive to rise wholly above it, and set evil at defiance; we cannot wonder that a philosophy which gave, or which promised, aid to this necessary elevation above the scene of human suffering and ignominy, should have been the favorite philosophy of every better spirit,—of all those whom at the distance of so many centuries we still venerate, as if they were more than mortal deliverers of mankind. Indeed, some have been disposed to consider the stoical philosophy as a special provision of nature, or as raised up in the course of providence in aid of oppressed humanity. ‘Among the different schools,’ says Apollonius in his Eulogy of the Emperor Marcus Aurelius Antoninus, ‘he soon found one which taught man to rise above himself. It discovered to him a kind of new world, in which pleasure and pain were annihilated; where the senses had lost all their power over the soul; where poverty, riches, life, death, were nothing, and virtue alone existed. Romans! it was this philosophy which gave you Cato and Brutus, and which supported them amidst the ruins of liberty. It extended and increased under your tyrants. It seemed to have become necessary to your oppressed ancestors, whose precarious life was incessantly under the axe of the despot. In those times of degradation, it alone maintained the dignity of human nature. It taught to live—it taught to die; and, while tyranny was degrading the soul, it lifted it up again with more force and grandeur. This

heroic philosophy was made for heroic souls. Aurelius marked, as one of the most fortunate days of his whole life, that day of his boyhood when he first heard of Cato. He preserved with gratitude the names of those also who made him acquainted with Brutus and Thraseas; and he thanked the gods that he had enjoyed the privilege of reading the maxims of Epictetus.’

This emperor was himself one of the most illustrious specimens of the doctrine of Zeno, which found in him a favorable soil; and we willingly yield ourselves up for a time to the impassioned eloquence of his stoical panegyrist, which is almost equalled in intensity of admiration by philosophers of recent times. ‘If,’ says Montesquieu, *De l’Esprit des Loix*, liv. xxiv. chap. 10, ‘I could for a moment cease to think that I am a Christian, I should not fail to rank the destruction of the sect of Zeno among the misfortunes of the human race. It was extravagant only in feelings which possess a moral grandeur,—in the contempt of pleasures and pains. It alone made great citizens and great men; it alone made emperors worthy of being called great. While the stoics regarded as nothing riches, grandeur, pleasures, and afflictions, they occupied themselves solely with laboring for the happiness of others in the discharge of the various social duties. They seemed to regard that holy spirit, the portion of the divinity which they believed to be in man, as a sort of bountiful providence that was watching over the human race. Born for society they considered that their office was to labor for its good; and they labored at little cost to the society which they benefited, because their reward was all within themselves: their philosophy sufficed for their happiness; or rather the happiness of others was the only accession which could increase their own.’

This we must remember is panegyric, which usually admits of much deduction and abatement. That there was much of what was very fine and brilliant about the moral philosophy of Zeno and his followers is readily admitted, but we are not quite so confident about its moral efficacy, or that what was so fine in theory and beautiful on paper worked well in practice. The very best of the stoics were after all men of very equivocal character. And if, as we believe Dr. Campbell has somewhere remarked, those who overstrain piety or virtue so as to render it impracticable be its greatest enemies, we fear Zeno, Cleanthes, and Chrysippus, can hardly be ranked among its friends. It is well to have a high mark of moral excellence, because the higher we aim the higher we are likely to rise in actual attainment. The mark, however, must not be placed above the reach of possibility, or beyond our very thoughts and persuasions, and expectations. But, if some parts of the stoical morality had been as attainable in practice as we deem them absurd and impossible, they would still have been the reverse of real excellence or virtue. ‘If it had been possible for human nature to feel an absolute indifference as to every thing external, unless from some relation which it bore, or was imagined to bear, to the Divinity, how much of all that tenderness which renders

the domestic and friendly relations so delightful, would have been destroyed by the mere cessation of the little pleasures and little exercises of kindness and compassion which foster the benevolent regard. In relation to these private affections, the stoical system must have been practically injurious to virtue.

One peculiarity of the moral philosophy of Zeno is very attainable; but there are comparatively few moral reasoners who will applaud it, though some have been disposed to justify it. The reader will perceive we allude to suicide, which had the fullest permission, if not the merit, of an act of moral heroism awarded to it,—at least there was nothing of blame or disgrace associated with it in the mind of a stoic. This indeed is a strange anomaly in a moral system, especially in a system extravagantly boastful of an impracticable kind of resignation, patience, fortitude, and of conformity to nature and of submission to the will of God. On the whole, we must conclude that the ethics of Zeno and his followers, however splendid, and in some respects good, deviated as a system from all sound principles, and had a tendency to produce artificial characters, and to encourage moral affectation and hypocrisy. The piety taught by this system is nothing but a quiet submission to irresistible fate. The self-command enjoined would annihilate the best affections of the heart, and many of the most endearing virtues of life. The indulgence granted to suicide is inconsistent not only with the genuine principles of piety, but even with that constancy which was the most essential ingredient of stoical perfection: and was, therefore, itself a suicide of the scheme.

There is one remark more before leaving the system of the stoics. The reader must have perceived, in the best and truly excellent parts of it, a striking resemblance of the moral features of the gospel, or something like the spirit and sentiments of Christianity: such as self-denial, resignation to the divine will, universal benevolence and beneficence, doing good to all men, relieving the afflicted, and loving even enemies. This may be accounted for in various ways. The coincidence might perhaps be casual, or Christianity might borrow from stoicism, or the latter might borrow from the former. Now of all these three suppositions the last is the only one that we consider at all probable. It is in the latest editions of stoicism that we find most resemblance of Christian principle and sentiment. It is comparatively faint in the moral writings of Cicero, who borrowed the materials of his moral declamation chiefly from the stoics; but it is strongest in the writings of Seneca, and in the recorded sentiments of Epictetus and other stoics who lived subsequently to the general diffusion of the Gospel in the Roman empire.

Many have believed that Seneca was secretly a Christian. We know of no sufficient evidence to warrant this belief; but he was certainly a philosopher likely to make himself acquainted with the more remarkable doctrines of Christianity, particularly those of a moral nature; and he was a likely enquirer also to avail himself of sentiments that were favorable to what he considered pure and sublime moral doctrines. This

seems, indeed, to have been what his heart was set upon, without caring much whence he had the materials. It has been questioned, indeed, whether he ought to be ranked among the stoic or the eclectic philosophers; and the freedom of judgment which he expressly claims, together with the respect which he pays to philosophers of different sects, clearly prove that he did not implicitly attach himself to the system of Zeno. He speaks, indeed, of *our* Cleanthes and *our* Chrysippus; but he speaks in the same friendly and fraternal style of *our* Demetrius and *our* Epicurus. There can be no doubt, however, from the general strain and spirit of his writings, that he adhered in the main to the system of the stoics. Almost all, indeed, who were eminent for philosophic spirit of that time in the Roman empire were more or less attached to the same system. Most of the poets and historians were evidently well acquainted with it; and some of their loftiest moral sentiments derived their sublimity from its elevating influence.

The only other ancient system of moral philosophy entitled to notice is that of Epicurus; and it is the very antithesis of that of Zeno; for no two systems can well be imagined more dissimilar, or more opposed to one another. They may be regarded as the two opposite extremes in the ancient moral systems; and probably the mutual repulsion or antipathy of their respective founders and partisans was the principal reason of their receding so far from the golden mean, so that the one became impracticable, vain, and visionary, and the other degenerated into the licentiousness of the most debasing sensual gratification that ever had the impudence to plead the sanction of philosophy. But, though epicurism has long been the name of gross pleasure, it does not appear that Epicurus himself was either its slave or its patron. His principles, however, had a sort of natural tendency to that with which his name has been so long identified.

Epicurus must certainly be considered as atheistical in doctrine; consequently his moral philosophy could have no higher end or relation than the present life and human advantage in this world. In this view it may be considered as identical with the moral philosophy of Hume, who makes utility the standard and measure of virtue. The only difference is in the name given to this standard and measure. Epicurus called it pleasure; Hume called it utility.

The doctrine of Epicurus concerning nature differs from that of the stoics chiefly in these particulars: the latter considered God to be the soul of the world, diffused through universal nature: the former admitted no primary intelligent nature into his system, but held atoms and space to be the first principles of all things, and ascribed every appearance in nature to a fortuitous collision and combination of atoms. When reduced to inextricable difficulties, by the absurdity of his system, he attempted to propound something like theism, or to employ a language not manifestly subversive of the very idea of an intelligent cause of all things; but he was compelled to seek refuge in the common asylum of philosophic ignorance and pretension,—words without meaning.

The science of physics (in which he was certainly in some respects nearer the truth than many of the other ancient philosophers) was, according to the admission of Epicurus, subordinate to that of ethics; and his whole doctrine concerning nature was professedly adapted to rescue men from the dominion of troublesome passions, and to lay the foundation of a tranquil and happy life. The following is a summary of the principles of his moral philosophy, so far as the statements of Cicero, Laetius, and others, can be ascertained and relied on.

The end of living, or the ultimate good, which is to be sought for its own sake, according to the universal opinion of mankind, is happiness; yet men for the most part fail in the pursuit of this object, either because they do not form a right idea of the nature of happiness, or because they do not employ proper means for its attainment. Since it is every man's interest to be happy, through the whole of life, it is the wisdom of every one to employ philosophy in the search of felicity without delay; and there cannot be greater folly than to be always beginning to live. The happiness of man is that state in which he enjoys as much of the good, and suffers as little of the evil, incident to human nature as possible. A wise man, though deprived of sight and hearing, may experience happiness in the enjoyment of what yet remains of good in his possession; and when suffering torture, or laboring under a painful disease, he can mitigate the anguish by patience, and enjoy, under the severest afflictions, the consciousness of his own constancy. But it is impossible that perfect happiness can be possessed without the pleasure which attends exemption from pain and the enjoyment of the good things of life. Pleasure is in its nature good—pain is in its nature evil; therefore the one is to be pursued, the other avoided for its own sake. Pleasure or pain is not only good or evil in itself, but the measure of what is good or evil in every object of desire, or of aversion; for the ultimate reason why we pursue one thing and avoid another is because we expect pleasure from the one and apprehend pain from the other. If we sometimes decline a present pleasure, it is not because we are averse to pleasure itself, or do not make it the ultimate reason of choice and preference, but because we conceive that, in the present instance, it will be necessarily connected with greater pain. In like manner, if we sometimes voluntarily submit to present pain, it is because we judge it to be necessarily connected with, or conducive to, greater pleasure. So that in voluntarily refusing present pleasure, and choosing to endure immediate pain, it is in each case from a sense of interest, or from a desire and preference of pleasure. Though all pleasure, therefore, is essentially good, and all pain is essentially evil, it does not necessarily follow that in every single instance the one ought to be pursued and the other avoided; but reason is to be exercised in distinguishing and comparing the nature, and degrees, and duration of each, that the result may be a wise choice of that which shall appear to have the greatest amount of good.

That pleasure is the chief good appears from

the inclination which every animal, from its first birth, discovers to pursue pleasure and avoid pain; and is confirmed by the universal experience of mankind, who are incited to action by no other principle, than the desire of avoiding pain, or of obtaining pleasure. There are two kinds of pleasure; one consisting in a state of rest, in which both body and mind are undisturbed by any kind of pain; the other arising from an agreeable agitation of the senses, producing a corresponding emotion in the mind. It is on the former of these that the enjoyment of life chiefly depends. Happiness may therefore be said to consist in bodily ease, and mental tranquillity. When pleasure is asserted to be the end of living, we are not then to understand that violent kind of delight or joy which arises from the gratification of the senses and passions, but merely that placid state of mind which results from the absence of every cause of pain or uneasiness. Those pleasures which arise from agitation are not to be pursued as in themselves the end of living, but as means of arriving at that stable tranquillity in which true happiness consists. It is the office of reason to confine the pursuit of pleasure within the limits of nature, for the attainment of that happy state in which the body is free from every kind of pain, and the mind from all perturbation. This state must not, however, be conceived to be perfect in proportion as it is inactive and torpid, but in proportion as all the functions of life are quietly and pleasantly performed. A happy life neither resembles a rapid torrent, nor a standing pool, but is like a gentle stream that glides smoothly and silently along.

We will interrupt, for a moment, the statement of the particulars contained in the doctrine of Epicurus, for the sake of presenting a remark or two from Aristippus, the nearest of all the ancient philosophers to Epicurus, though more of a libertine both in theory and practice. Human nature, said Aristippus, is subject to two contrary affections, pain and pleasure. Pleasure is the ultimate object of human pursuit; and it is only in subserviency to this that fame, friendship, and even virtue, are to be desired. This is very explicit. But the sentence we wished to compare with the concluding part of the statement we have already given of the opinions of Epicurus is the following:—Happiness consists not in tranquillity or indolence, but in a pleasing agitation of the mind, or active enjoyment. This is happier than the illustration of happiness by Epicurus when he says it resembles neither the torrent nor the standing pool, but a gentle stream that glides smoothly and silently along; and we may compare with it a passage from Paley's inimitable chapter on happiness in his *Moral Philosophy*. 'Happiness consists, secondly, in the exercise of our faculties either of body or mind, in the pursuit of some engaging object. It seems that no plenitude of present gratifications can make the possessor happy for a continuance, unless he have something in reserve, something to hope for and look forward to. This I conclude to be the case from comparing the alacrity and spirits of men who are engaged in any pursuit which interests them,

with the dejection and ennui of almost all, who are either born to so much that they want nothing more, or who have used up their satisfactions too soon, and drained the sources of them. Hope, which thus appears to be of so much importance to our happiness, is of two kinds; where there is something to be done towards attaining the object of our hope, and where there is nothing to be done. The first alone is of any real value; the latter being apt to corrupt into impatience, having no power but to sit still and wait, which soon grows tiresome.

* * * Those pleasures are most valuable, not which are most exquisite in the fruition, but which are most productive of engagement and activity in the pursuit. A man who is in earnest in his endeavours after the happiness of a future state has in this respect an advantage over all the world; for he has constantly before his eyes an object of supreme importance productive of perpetual engagement and activity, and of which the pursuit (which can be said of no pursuit besides) lasts him to his life's end. Yet even he must have many ends besides the far end; but then they will conduct to that, be subordinate, and in some way or other capable of being referred to that, and derive their satisfaction, or an addition of satisfaction, from that. Reader, we need not tell you that this is admirable; and we thought that we could not do better than present this beautiful specimen of true philosophy in connexion with the doctrines of Epicurus and Aristippus, that you might see how much modern wisdom excels the boasted wisdom of the ancients, and how much better the moral philosophy of Christians is, than that of the most celebrated heathens. But we must return to Epicurus.

The happy life, which resembles a gentle stream, can be attained only by a prudent care of the body and steady government of the mind. The diseases of the body are to be prevented by temperance, or cured by medicine, or rendered tolerable by impatience. Against the diseases of the mind philosophy provides antidotes; and the means which it employs are the virtues, the origin of which is prudence or wisdom; which instructs men to free their understandings from the mists of prejudice; to exercise temperance and fortitude in the government of themselves; and to practise justice towards others. Though pleasure or happiness, which is the end of living, be superior to virtue, which is the only means to the end, it is the interest of every one to practise all the virtues; for, in a happy life, pleasure can never be separated from virtue.

A prudent man will, to secure his tranquillity, consult his natural disposition in the choice of his plan of life. If he be persuaded that he should be happier in the married state than in celibacy, he ought to marry; but, if he be convinced that matrimony would impede his happiness, he ought to remain single.

Temperance is the discreet regulation of the desires and passions, by which we are enabled to enjoy pleasures without suffering any consequent inconvenience. They who maintain such a constant self-command as never to be enticed, by the prospect of present indulgence, to do that

which will be productive of evil, obtain the truest pleasure by declining pleasure. As some desires are natural and necessary; others natural but not necessary; others again neither natural nor necessary, but the offspring of false judgment; it must be the office of temperance to gratify the first class, as far as nature requires; to restrain the second within the bounds of moderation; and, as to the third, resolutely to oppose, and if possible entirely repress them.

Sobriety, as opposed to gluttony and inebriety, is of admirable use in convincing men that nature is satisfied with a little, and enabling them to content themselves with simple and frugal fare. Such a manner of living is conducive to health, renders a man alert and active in all the business of life, gives an exquisite relish to the occasional varieties of a plentiful board, and prepares to meet every reverse of fortune without the dread of want.

Continence is a branch of temperance, which prevents the diseases, infamy, remorse, and punishment, usually incurred by indulgence in illicit attachments. Music and poetry, frequently incentives to licentious pleasures, are to be sparingly and cautiously used.

Gentleness, as opposed to an irascible temper, greatly contributes to tranquillity and happiness, by preserving the mind from perturbation, and by arming it against the assaults of calumny and malice. A wise man, who puts himself under the government of reason, will be able to receive an injury with calmness, and to treat the person who committed it with lenity. He will rank injuries among the casual events of life, and will prudently reflect that he can no more stop the natural current of human passions than he can curb or calm the stormy winds. Disobedient or disorderly members of a family, or of a state, should be chastised or punished without wrath.

Moderation, in the pursuit of honors and riches, is the only security against disappointment and vexation. A wise man, therefore, will prefer the simplicity of a country life or humble station to the magnificence of courts. A wise man will consider future events as wholly uncertain, and will not suffer himself to be elated with confident expectation, anxiously disquieted with doubt or depressed by despair, all which are equally destructive of tranquillity. It will contribute to the enjoyment of life to consider death as its termination, and that it becomes us to retire like satisfied guests, neither regretting the past nor solicitous about the future.

Fortitude, the virtue which enables us to endure pain and banish fear, is of great use in producing tranquillity. Philosophy instructs us to pay homage to the gods, not from hope or fear, but from veneration of their superior nature. It enables us also to conquer the fear of death by teaching us that it is no proper object of terror; since, whilst we live, death is not, and when death comes we live not: therefore, it concerns neither the living nor the dead. The only evils to be apprehended are bodily pain and mental distress. Pain of body it becomes a wise man to bear with firmness; because if slight it may be easily borne, and if intense it cannot last long. Distress of mind commonly

arises not from nature but from opinion; a wise man will therefore arm himself against it by reflecting that the gifts of fortune, the loss or privation of which he may be inclined to deplore, were never his own, but depended on circumstances which he could not command. If, therefore, they happen to leave him, he will endeavour as soon as possible to obliterate the remembrance of them, by occupying his mind in pleasing contemplation, and engaging in agreeable avocations.

Justice respects man as a social being, or as living in society, and is the common bond, without which no society can exist. This virtue, like the rest, derives its value from its tendency to promote the happiness of life. It is not only never injurious to the man who practises it, but nourishes in his mind calm reflections and pleasant hopes; whereas it is impossible that the mind in which injustice dwells should not be full of disquietude. As it is impossible that iniquitous actions should promote the enjoyment of life, since remorse, legal penalties, and public disgrace, must increase its trouble, every one who follows the dictates of sound reason will practise the virtues of justice, equity, and fidelity. The necessity of the mutual exercise of justice in society, to the common enjoyment of the gifts of nature, is the foundation of those laws by which it is prescribed. It is the interest of every individual in a state to conform to the laws of justice; for by abstaining from injuring others, and by rendering them their due, he contributes his part towards the preservation of the social union, on the perpetuity of which his own safety depends. Nor ought any one to think that he is at liberty to violate the rights of his fellow-citizens, provided he can do it securely; for he who has committed an unjust action can never be certain that it will not be discovered; and, however successfully he may conceal it from others, this will avail him little, since he cannot conceal it from himself, or rid himself of the rankling disquiet of being conscious of the fact, and privy to his own disgrace: suspicion and apprehension will haunt his mind. In different communities different laws may be enacted, according to their respective circumstances; for a law good for one community may not be good for another. Whatever is thus prescribed is to be considered as a rule of justice, so long as the society shall judge the observance of it to be for the general good or benefit of the community considered as a whole. But, whenever any rule of social conduct is found by experience to be no longer useful or conducive to the public good, it should be no longer enforced, but repealed.

Nearly allied to justice are the virtues of beneficence, compassion, gratitude, piety, and friendship. He who confers benefits on others procures to himself the satisfaction of seeing the stream of plenty flowing around him from the fountain of his own beneficence; and he enjoys at the same time the pleasure of being esteemed by others. The exercise of gratitude, filial affection, and reverence for the gods, is necessary to avoid the hatred and contempt of all men. Friendships are contracted for the sake of mutual benefit; but, by degrees, they ripen into

such disinterested attachment that they are continued without any prospect of advantage, or calculating regard to interest. Between friends there is a kind of league that each will love the other as himself. A true friend will partake of the wants and sorrows of his friend as if they were his own; he will relieve him when in want, visit him in prison, or in the chamber of sickness; nay, situations may occur in which he would not hesitate to die for him. It cannot then be doubted that friendship is one of the most useful means of procuring a secure, tranquil, and happy life.

The above is a summary of the Epicurean system of moral philosophy, taken chiefly from such authorities as Laertius and Cicero, by Brucker, and drawn up, as he himself expresses it, from Brucker by Dr. Enfield, whom we have followed, with little variation of expression, and no essential difference of statement. The inquisitive reader may consult Brucker, Enfield, and Stanley, concerning the history of ancient philosophy and philosophers; and, if he think it worth the time and trouble, he may verify their statements by examining their authorities.

The moral philosophy of Epicurus is for the most part very plausible; it is all very fine; and much of it may be profitable to men, if they can but avail themselves of its philosophic wisdom. The reader must have perceived from it, too, how little there is new in these matters under the sun; and that most of the fine things which have been said and sung by the Cicero's and Addison's, and Horace's and Pope's, were trite sentiments in the world, long before they were born. The same remark applies to many of the modern moral philosophers, who have borrowed and retailed the opinions of the ancients, in a manner which would induce common readers to consider them as new and fresh from the spring of original invention or discovery. Considered as a whole, the system has the merit of much simplicity, intelligibility, and congruity. There is indeed some mere verbiage and paralogism about the different parts, but not so much as is usually to be found in moral systems, and the machinery is altogether well adjusted. We can almost always tell what this philosopher is about. We see him lay his foundation, and build upon it the whole superstructure of his ethics, such as they are. He does nothing in the dark, or up among the clouds. All is on terra firma, and in broad day-light. In this respect Epicurus is a perfect contrast to most of the ancient philosophers, such as Plato and Aristotle, and particularly Zeno, to whom, in moral philosophy, he stands most decidedly opposed. We need not wonder therefore that, notwithstanding all the abuse heaped upon his memory, he should have been the favorite with all the better reasoners of modern times, such as Bacon, Gassendi, Hobbes, Newton, Locke, not to mention many others.

It is almost wholly unnecessary to attempt any analysis of the moral system of Epicurus; for it is so plain and simple as to require no exposition. We shall have occasion, however, to refer to it when we come to examine some of the modern theories of morals; for it may be considered as essentially identical with the doctrine of Hobbes, of Mandeville, and of Hume.

The pleasure or happiness of Epicurus is the greatest possible amount of enjoyment in this life. This happiness is the chief good; the only object of man's supreme regard. It is the standard and measure of virtue; or rather virtue is nothing but practical prudence in the pursuit of the greatest possible quantity of enjoyment. Not only temperance and fortitude, but justice, beneficence, compassion, gratitude, piety, and friendship, are virtues merely because they are useful to the individual, or subservient to his happiness. All is resolvable into self-love, or rather self-interest. Virtue is nothing but driving the best bargain we can in the world. It is the wisest speculation we can enter upon and prosecute, to realise a large profit. It is not only the profitable pursuit, as piety and virtue have been sometimes quaintly designated, it is the pursuit of profit. According to Epicurus, self-love, or the desire of happiness, is the sole spring of moral action; self-interest, or the greatest amount of attainable happiness, is the goal; and virtue, wisdom, or prudence (for there is no real difference in this case between the one and the other), is the means to that end. Vice is the folly of one who makes himself poor when he might become rich; virtue is the wisdom of one who, instead of begging his enjoyment, enriches it with the greatest possible accumulation of wealth and possession.

It is not necessary to say more. We cannot wonder that the doctrine of Epicurus immediately degenerated into the vilest licentiousness, however harmless it might be in the management of such an intellectual man as its author. It is essentially a doctrine after the heart of every selfish being; and selfish human beings are, for the most part, sensual. But if sensuality had been no necessary consequence of the doctrine, nay, if it had been found rather to diminish than to increase the sensual tendency in its disciples, it would not have been for that worthy of all acceptance, even on the ground of social utility. Human society has been always bad enough; but it would be infinitely worse, if it were from the highest to the lowest, and from the oldest to the youngest, thoroughly principled and influenced with the moral philosophy of Epicurus. What could we expect of a set of beings, not only selfish, but philosophising the selfish principle into such dignity and importance as to constitute it the object of supreme regard; the standard and measure of all excellence? In this view we need not wonder that the lovers of expiring liberty in the Roman empire held the Epicurean system in abhorrence, whilst they cordially embraced the nobler system of Zeno with all its faults.

We might proceed at once from the moral philosophy of Epicurus to that of the moderns most akin to his, as contained in the writings of Hobbes, Mandeville, and Hume. But, for the sake of presenting a fuller historical view, some intermediate notice may be taken of those who went before them after the revival of learning. In the section of his work which treats of Modern Attempts to improve Moral and Political Philosophy, Dr. Enfield says, after Brucker (who was not remarkable for critical sagacity),

'Scarcely had philosophy emerged out of the darkness of barbarism, when learned men, tired of treading for ever the barren path of scholastic controversy, began to visit the flowery and fertile fields of moral philosophy. Several of those writers, to whom the world is indebted for the revival of polite learning, wrote moral treatises after the manner of the ancients. Among these, the first of eminence is Montaigne, whose essays, consisting of miscellaneous observations, chiefly moral, are written with great ingenuity and vivacity. Many of his reflections, it must be owned, have a tendency to encourage scepticism; and sometimes he indulges a luxuriance of fancy, and freedom of language, which grossly violate the rules of decorum; but he must not be wholly excluded from the class of useful moralists.'

We have intimated that we do not consider Brucker a very sound critic. That the essays of Montaigne possess much ingenuity and vivacity is freely admitted; but that he is a useful moralist is somewhat doubtful. According to Mr. Dugald Stewart, both he and Rochefoucault have had a very pernicious influence on the good people of France. Certain it is, however, that Montaigne was the first author of eminence among the moderns who wrote about morals.

Brucker makes honorable mention of the moral philosophy of Placcius, a native of Lubbeck. 'This writer,' he says, 'was, if not the first, certainly among the first, who distinguished the science of ethics from that of jurisprudence, and attempted to assign each its proper limits. But these subjects were afterwards more fully and scientifically handled by Grotius and Puffendorff, whose eminent services, in this and other branches of science, entitle them to particular notice.'

The reputation of Grotius and Puffendorff has been for some time very much on the decline. The former is however considered a sort of father of moral philosophy in modern times. 'One celebrated work alone,' says Mr. Stewart, 'the treatise of Grotius *De Jure Belli et Pacis*,' first printed in 1625, 'arrests our attention among the crowd of useless and forgotten volumes, which were then issuing from the presses of Holland, Germany, and Italy. The influence of this treatise, in giving a new direction to the studies of the learned, was remarkable, and continued long to operate with undiminished effect. Notwithstanding the just neglect into which Grotius and his successors have lately fallen, it will be found, on a close examination, that they form an important link in the history of modern literature. It was from their school that most of our best writers on ethics have proceeded, and many of our most original enquirers into the human mind; and it is to the same school that we are chiefly indebted for the modern science of political economy.'

Mr. Stewart is evidently not a little charmed with the flowers and fruits growing out of Grotius and Puffendorff, though he is constrained to admit the stocks or stems to be almost worthless. 'In perusing,' he remarks, 'their systems, it is impossible not to feel a very painful dissatisfaction, from the difficulty of ascertaining the precise object aimed at by them. So vague and

indeterminate is the general scope of their researches, that not only are different views of the same subject taken by different writers, but even by the same writer in different parts of his work; a circumstance which of itself sufficiently accounts for the slender additions they have made to the stock of useful knowledge; and which is the real source of that chaos of heterogeneous discussions through which the reader is perpetually forced to fight his way.' This is almost as severe, upon the far famed Grotius and Puffendorff, as the remarks of Jeremy Bentham in his Introduction to the Principles of Morals and Legislation. 'Of what stamp,' he asks, 'are the works of Grotius, Puffendorff, and Burlamaqui? Are they political or ethical, historical or juridical, expository or censorial. Sometimes one thing, sometimes another: they seem hardly to have settled the matter with themselves.'

It is both amusing and instructive to place, in contrast with the above, the eulogial and almost adoring strains on Grotius, of the moral professors in the Scottish universities 100 years ago. Take as a specimen the following from the pen of Mr. Carmichael, professor of moral philosophy in the university of Glasgow, and predecessor to Dr. Hutcheson and Dr. Adam Smith: 'No person liberally educated can be ignorant, that, within the recollection of ourselves and of our fathers', philosophy has advanced to a state of progressive improvement hitherto unexampled. Nor does this remark apply solely to natural philosophy: the other branches of philosophy have been prosecuted during the last century with no less success; and none of them in a more remarkable degree than the science of morals. This science so much esteemed, and so assiduously cultivated by the sages of antiquity, lay, for a length of time, in common with all the other useful arts, buried in the rubbish of the dark ages, till (soon after the commencement of the seventeenth century) the incomparable treatise of Grotius, *De Jure Belli et Pacis*, restored to more than its ancient splendor that part of it which defines the relative duties. Since that period the most learned and polite scholars of Europe, as if suddenly roused by the sound of a trumpet (*quasi classico dato*) have vied with each other in the prosecution of this study,—so strongly recommended to their attention, not merely by its novelty, but by the importance of its conclusions, and the dignity of its object.'

This will match any of the eulogies of professor Stewart on the philosophy of mind, so recently in its turn the wonder of the day, at least in the Scottish universities; and which drove the lucubrations of Grotius and Puffendorff, and Carmichael and Hutcheson, to the back settlements of the moral hall. Some minds are of a most happy conformation for eulogial persuasion. We can hardly help envying their gracious assurance, and gratulatory delight, in magnifying the verity and importance of their favorite pursuit; even if the object of it be some obscure phantom, as Bentham designates the law of nature. But let us hear a little about the modern father of moral philosophy, from the elegant mind of Mr. Stewart.

'Among the different views which have been

formed of natural jurisprudence, one of the most common supposes its object to be, to lay down those rules of justice which would be binding on men living in a social state, without any positive institutions; or (as frequently called by writers on this subject) living together in a state of nature. This idea seems to have been uppermost in the mind of Grotius, in various parts of his treatise.' It was only in such a mind that such an idea could be either uppermost or undermost.

'To this speculation about the state of nature Grotius was manifestly led by his laudable anxiety to counteract the attempts then recently made to undermine the foundations of morality. That moral distinctions are created entirely by the arbitrary and revealed will of God, had, before his time, been zealously maintained by some theologians even of the reformed church; while, among the political theorists of the same period, it was not unusual to refer these distinctions (as was afterwards done by Hobbes) to the positive institutions of the civil magistrate. In opposition to both, it was contended by Grotius, that there is a natural law coeval with the human constitution, from which positive institutions derive all their force; a truth which, how obvious and tritaculous soever it may now appear, was so opposite in its spirit to the illiberal systems taught in the monkish establishments, that he thought it necessary to exhaust in its support all his stores of ancient learning. The older writers on jurisprudence must, I think, be allowed to have had great merit in dwelling so much on this fundamental principle; a principle which renders man a law to himself, and which, if once admitted, reduces the metaphysical question concerning the nature of the moral faculty to an object merely of speculative curiosity. To this faculty the ancients frequently gave the name of reason; as in that noted passage of Cicero, where he observes that 'right reason is itself a law, congenial to the feelings of nature; diffused among all men; uniform; eternal; calling us imperiously to our duty, and peremptorily prohibiting every violation of it. Nor does it speak one language at Rome, and another at Athens, varying from place to place, or time to time; but it addresses itself to all nations and to all ages, deriving its authority from the common sovereign of the universe, and carrying home its sanctions to every breast, by the inevitable punishments which it inflicts on transgressors.'

We know not that we could have had any thing better than this for an opening into what Brucker calls the flowery and fertile fields of our modern moral philosophy; though they are such flowers and fruits as grow upon thorns and briars and thistles, and therefore we are not over fond of them. But, as Paley justly remarks, almost any kind of employment is better than none, and we shall try to make our path through these thorny mazes of controversy as pleasant as possible to such as are willing to accompany us. It is not wholly useless to know something about the different philosophies of the world; indeed some competent acquaintance with them is necessary in self-defence. It is the part of a reasonable being to find out whether they have

any thing good about them; and still more to see that they do him no mental or bodily harm. These points we endeavour to keep steadily in view, and we have some observations connected with them to offer upon the passage just quoted from Mr. Stewart's Dissertation in the supplement to the *Encyclopædia Britannica*. We would have willingly indeed taken our final leave of him in the article *METAPHYSICS*, but he has unexpectedly come in our way once more in an ethical shape. And here, though we should be better pleased to praise, we are again constrained to blame him; for in the passage just quoted there is not a little artful management of eulogistic and dyslogistic phraseology, and of dexterous assumption to accomplish a purpose. The term arbitrary for instance, which he connects with the revealed will of God, is obviously dyslogistic, that is invidious, or rather odious. No sound theologian ever spoke of the revealed will of God as arbitrary. The published will—the edicts of a Russian Autocrat are often arbitrary; but no pious mind would liken the will of the Supreme Being to that of an earthly despot. Mr. Stewart speaks of 'a natural law coeval with the human constitution, from which positive institutions derive all their force; a truth,' he adds, 'however obvious and tritocal it may now appear.' This is a remarkable specimen of that dexterous assumption in which he always excels. He says moreover that this obvious and tritocal truth 'was opposite in its spirit to the illiberal systems taught in the monkish establishments.' Of course, what was not only obviously true, but also opposite in its spirit to illiberal systems and monkish establishments, must have every possible kind of excellence and recommendation; but what had monkish establishments to do with the question? They are not in the record or among the premises. The parties to be tried in the cause of moral distinctions were on the one hand theologians of the reformed church, who would resolve them into the revealed will of God; and, on the other, political theorists, who would resolve them into the positive institutions of the civil magistrate. What business had monks and their illiberal systems among theologians of the reformed church and political theorists? 'The older writers on jurisprudence,' Mr. Stewart tells us, 'had great merit in dwelling so much on this fundamental principle, which renders man a law to himself.' But, if they had so much merit in dwelling on it, what would their merits have been had they first established it? Was not the latter first in the order of nature and reason? If the one was well done, surely the other ought not to have been left undone. As to the dexterous quotation from Scripture, it is sufficient to remark, that Satan showed quite as much dexterity in that way long ago. He too could quote Scripture when he thought he could make it suit his purpose, though his attempts did not prove very successful. 'The principle on which Grotius and Puffendorf so meritoriously dwelled so much, Mr. Stewart adds, 'if it be once admitted, reduces the metaphysical question concerning the nature of the moral faculty to an object merely of speculative curiosity.' This is a sort

of regular manœuvre with our intellectual and moral philosopher, when he has to effect his retreat from some invincible difficulty. However important the question may be, if it cannot be fairly met, and logically disposed of, it is slurred over, or got rid of, as an object merely of speculative curiosity; which always puts us in mind of the fox and the grapes in the fable. When he could not reach them, he scorned to have them, for they were sour worthless things, not worth taking.

We might as well call the foundation on which the whole superstructure must rest an object merely of speculative curiosity, as make the same affirmation concerning the nature of the moral faculty. The question of its nature is but another form of words for the question of its entity, and, without first of all ascertaining what it is, we are attempting, in raising a structure of ethics, to build without a foundation.

We, who call ourselves moral philosophers, may all agree to admit or assume that there is a moral principle or faculty coeval with the human constitution, even though our different theories concerning it be mutually destructive of one another, and our tongues as divided as the builders of Babel; we may moreover vie with one another in quoting from Cicero splendid declamations in praise of the unknown principle, on which we are professedly at work to raise a moral tower that shall reach the heavens; but the question will after all occur, to every one who is resolved not to take such a matter for granted, what is it? I demand some description of it. If you cannot agree among yourselves in what it consists, what evidence have I that it exists at all?

If we seek satisfaction in this important particular from those of the same persuasion with Mr. Stewart, though better reasoners, we shall not find it. Dr. Smith says, in his *Theory of Moral Sentiments*, part III. chap. 5, 'Upon whatever we suppose that our moral faculties are founded, whether upon a certain modification of reason, upon an original instinct, called a moral sense, or upon some other principle of our nature, it cannot be doubted that they were given us for the direction of our conduct in this life. They carry along with them the most evident badges of this authority, which denote that they were set up within us to be the supreme arbiters of all our actions, to superintend all our senses, passions, and appetites, and to judge how far each of them was to be either indulged or restrained. The rules, therefore, which they prescribe are to be regarded as the commands and laws of the deity, promulgated by those vicegerents which he has set up within us.'

This is quite as affirmative, almost as declamatory, and altogether as unsatisfactory, as the noted and ever-to-be-quoted passage of Cicero. Indeed there is so much appearance of striving and straining about it, that we cannot divest ourselves of the suspicion that it was wrought up as a sort of shield against the charge of virtual atheism, in resolving morality into sympathy. This is the principle of our nature, according to Dr. Smith, which is the origin of our moral faculties; or the local habitation of the vice-

gerents of the Deity, set up within us to promulgate his laws, to be the supreme arbiters of all our actions, and to wear the badges of authority, and superintend and judge all our senses, passions, and appetites. But, according to lord Shaftesbury and Dr. Hutcheson, it is instinct, or a particular sense which they called the moral sense, that is the origin of all the moral faculties Dr. Smith speaks of, and of all the moral distinctions of any description which can possibly exist in connexion with human nature. Professors Stewart and Brown do not agree with Dr. Smith in making sympathy the origin of moral distinctions, or the basis of their moral philosophy; nor do they exactly say after Dr. Hutcheson and lord Shaftesbury, in pronouncing for moral instinct as the origin and basis of morality; but it is difficult to say precisely what they would be at; for they seem to have been unwilling to commit themselves by explicit statements. If, however, any thing can be made of their statements, they are essentially the same as that of Hutcheson.

The vagueness of Mr. Stewart has long ceased to be a matter of wonder with us; but we were not a little disappointed and mortified when we came to the ethical part of Dr. Brown's lectures. No where is he so unsatisfactory, and particularly as to the origin of moral distinctions. But the reader shall have an opportunity of judging for himself. 'In surveying,' says Dr. Brown, Lecture 81, 'either our own conduct or the conduct of others, we do not regard the actions that come under our review as merely useful or hurtful, in the same manner as we regard inanimate things, that are independent of our will. There is a peculiar set of emotions to which the actions of voluntary agents in certain circumstances give rise that are the source of our moral sentiments, or rather which are themselves our moral sentiments, when considered in reference to the actions that excite them. To these emotions we give the name of moral approbation or moral disapprobation, feelings that are of various degrees of vividness as the actions which we consider are various. The single principle upon which these principles depend is the source of all our moral notions; one feeling of approbation, as variously regarded in time, being all which is truly meant when we speak of moral obligation, virtue, and merit, that in the works of ethical writers are commonly treated as objects of distinct enquiry; and that, in consequence of the distinct enquiries to which they have led, and the vain attempts to discover essential differences where none truly exist, have occasioned so much confusion of thought and verbal tautology as to throw a sort of darkness on morality itself.

'Instead, then, of enquiring first, what it is which constitutes virtue, and then what it is which constitutes merit, and then what it is which constitutes our moral obligation to do what we have seen to be right and meritorious, one enquiry alone is necessary,—what actions excite in us, when contemplated, a certain vivid feeling? since this approving sentiment alone, in its various references, is all which we seek in these different verbal enquiries. If a particular action be meditated by us, and we feel, on considering

it, that it is one of those which, if performed by us, will be followed in our own mind by the painful feeling of self reproach, and in the minds of others by similar disapprobation; if a different action be meditated by us, and we feel that our performance of it would be followed in our own minds, and in the minds of others, by an opposite emotion of approbation, this view of the moral emotions that are consequences of the actions is that which I consider as forming what is termed moral obligation, the moral inducement which we feel to the performance of certain actions, or to abstinence from certain other actions. We are virtuous if we act in conformity with this view of moral obligation; we are vicious if we act in opposition to it: virtuous and vicious meaning nothing more than the intentional performance of actions that excite, when contemplated, the moral emotions. Our action, in the one case, we term morally right, in the other case morally wrong; right and wrong, like virtue and vice, being only words that express briefly the actions which are attended with the feeling of moral approbation in the one case, of moral disapprobation in the other case.

'When we speak of the merit of any one, or of his demerit, we do not suppose any thing to be added to the virtue or vice; we only express, in other words, the fact that he has performed the action which it was virtuous or vicious to perform; the action which, as contemplated by us, excites our approval, or the emotion that is opposite to that of approval. Moral obligation, virtue, vice, right, wrong, merit, demerit, and whatever other words may be synonymous with these, all denote then, as you perceive, relations to one simple feeling of the mind, the distinctive sentiment of moral approbation or disapprobation, which arises on the contemplation of certain actions; and which seems itself to be various, only because the action of which we speak or think, meditated, willed, or already performed, is variously regarded by us, in time, as future, present, past. There are, in short, certain actions which cannot be contemplated without the instant feeling of approval, and which may therefore be denominated morally right. To feel this character of approvableness in an action which we have not yet performed, and are only meditating on as future, is to feel the moral obligation or moral inducement to perform it; when we think of the action in the moment of volition, we term the voluntary performance of it virtue; when we think of the action, as already performed, we denominate it merit; in all which cases, if we analyse our moral sentiment, we cannot fail to discern that it is one constant feeling of moral approval, with which we have been impressed, that is varied only by the difference of the time at which we regard the action as future, immediate, or past.'

This is the concise statement of the whole matter we could select; and it is professedly a brief recapitulation, or, as the author terms it, 'a short retrospect of his original speculation;' yet it is wondrous long,—a mighty maze of words without any substantial meaning,—much ado about nothing,—or rather a wonderful effort of striving and straining to make a shadow into a

substance, that he might escape the conscious and manifest folly of attempting to build an ethical structure on nothing, or without a foundation. Whilst at the drudgery of transcribing this wordy retrospect of the author's original speculation, we were longing most eagerly for a nice morsel of Dr. Smith's delightful philosophic romance, *The Theory of Moral Sentiments*. Even Dr. Hutcheson's moral philosophy, though somewhat light and frothy, would be choice syllabus in comparison with such a bundle of dry verbalities about the origin of moral distinctions. But we must suffer Dr. Brown to state the difference between his notion concerning the origin of moral distinctions and that of Dr. Hutcheson. We must, however, abbreviate his statement, both for our own sake and that of the reader.

'In tracing,' says the moral lecturer, 'to an original susceptibility of the mind our moral feelings, we may be considered as arriving at a principle like that which Dr. Hutcheson, after lord Shaftesbury, has distinguished by the name of the moral sense. In our moral feelings, however, I discover no peculiar analogy to perceptions or sensations, in the philosophic meaning of these terms; and the phrase 'moral sense' has had a very unfortunate influence on the controversy as to the original moral differences of actions from the false analogies which it cannot fail to suggest. Were I to speak of a moral sense at present, you would understand me as speaking metaphorically of the original principle of our nature on which the moral emotions depend. But by Hutcheson it was asserted to be truly and properly a sense,—as much a sense as any of those which are the source of our direct external perceptions; and the scepticism, which would have been just with respect to such an organ of exclusive moral feeling, has been unfortunately extended to the certain moral principle itself, as an original principle of our nature. Of the impropriety of ascribing the moral feelings to a sense, I am fully aware then, and the place which I have assigned to them among the moral phenomena, is, therefore, very different.'

The author's enlightened friend Mr. Erskine, in a letter written from Calcutta, justly observes that he can perceive little or no real difference between Brown's statement and that of Hutcheson, though he was rather inclined to the explanation of Mr. Stewart. The difference is this: Hutcheson calls the assumed original principle, a sense; Brown calls it a susceptibility: and surely to call an original principle or tendency a susceptibility is quite as great a violation of established phraseology as to call it a sense. There is, however, a wonderful conveniency and advantage to the theorist in the adoption of such a phrase as moral susceptibility of our nature; for who can deny it? Whatever morality consist in, or in whatever manner we come by the notion and even feeling of it, there must be an original susceptibility of it; and, if this susceptibility be what is meant by original principle of our constitution, or by the right reason of Cicero, we can, if not applaud, at least admit all his assertions about it to be something more than mere empty declamation. We shall give one other quotation from Dr. Brown in this connex-

ion, as it shows that he considered his notion almost if not altogether identical with that of Hutcheson, and as it leads to a consideration of what seems most objectionable about it.

'But though Dr. Hutcheson may have erred in not analysing with sufficient minuteness the moral ideas of which he speaks, and in giving the name of a moral sense to the susceptibility of a mere emotion akin to our other emotions, this error is of little consequence as to the moral distinctions themselves. Whether the feeling that attends the moral contemplation of certain actions admit of being more justly classed with our sensations, or perceptions, or with our emotions, there is still a susceptibility of this feeling or set of feelings, original in the mind, and as essential to its very nature as any other of the principles or functions, which we regard as universally belonging to our mental constitution; as truly essential to the mind, indeed, as any of those senses among which Dr. Hutcheson would fix its place. The sceptical conclusions which some writers have conceived to be deducible from the doctrine of a moral sense, might be considered equally deducible from the doctrine of moral emotions for which I have contended; since the emotions may be regarded as almost the same feelings under a different name. You will find the objection stated and illustrated at great length in Dr. Price's elaborate, but very tedious, and not very clear, *Review of the principal Questions of Morals*. It is more briefly stated by Mr. Stewart in his outlines.

'From the hypothesis of a moral sense,' says Mr. Stewart, 'various sceptical conclusions have been deduced by later writers. The words right and wrong, it has been alleged, signify nothing in the objects themselves to which they are applied, any more than the words sweet and bitter, pleasant and painful; but only certain effects in the mind of the spectator. As it is improper, therefore, to say of an object of taste that it is sweet, or of heat that it is in the fire, so it is equally improper to say of actions that they are right or wrong. It is absurd to speak of morality as a thing independent and unchangeable; inasmuch as it arises from an arbitrary relation between our constitution and particular objects. To avoid these supposed consequences of Dr. Hutcheson's philosophy, an attempt has been made by some later writers, in particular by Dr. Price, to review the doctrines of Cudworth, and to prove that moral distinctions, being perceived by reason or the understanding, are equally immutable with all other kinds of truth.'

The following is the manner in which Dr. Brown meets the objection; and, whether successful or not, it displays his usual acuteness and mastery of analysis. What he says of virtue and vice not being absolute or abstract entities, but merely relations, is particularly worthy of attention. Most of the confusion and self-contradiction, to be met with in moral statements and reasonings, have arisen from the neglect of the very obvious truth that virtue and vice are not absolute entities which have a separate existence of themselves, like the objects presented to our senses.

‘That right and wrong signify nothing in the objects themselves is indeed most true: they are words expressive only of relation, and relations are not existing parts of objects or things, to be added to them or taken from them. There is no right nor wrong, virtue nor vice, merit nor demerit, existing independently of the agents who are virtuous or vicious; and, in like manner, if there had been no moral emotions to arise on the contemplation of certain actions, there would have been no virtue, vice, merit, demerit, which express only relations to these emotions. But, though there be no right or wrong in the abstract, the virtuous agent is not the same as the vicious agent: I do not say merely to those whom he benefits or injures, but to the most remote individual who contemplates that intentional production of benefit or injury. All are affected, on the contemplation of these, with different emotions; and it is only by the difference of these emotions that these actions are recognised as morally different. We feel that it will be impossible, while the constitution of nature remains as it is, that the lover and intentional producer of misery as misery, should ever be viewed with tender esteem; or that he, whose only ambition has been to diffuse happiness more widely than it could have flowed without his aid, should be regarded on that account with the detestation which we now feel for the murderer of a single helpless individual, or for the oppressor of as many sufferers as a nation can contain in its whole wide orb of calamity; and a distinction which is to exist while God himself exists, or at least which has been, and as we cannot but believe will be, coeval with the race of man, cannot surely be regarded as very precarious. It is not to moral distinctions only that this objection, if it had any force, would be applicable. Equality, proportion, signify nothing in the objects themselves to which they are applied, more than vice or virtue. They are as truly mere relations as the relations of morality. Though the three sides of a right angled triangle exist in the triangle itself, and constitute it what it is, what we term the properties of such a triangle do not exist in it, but are results of a peculiar capacity of the comparing mind. It is man, or some thinking being like man, whose comparison gives birth to the very feeling that is termed by us a discovery of the equality of the squares of one of the sides to the squares of the other two, that is to say (for the discovery of the truth is nothing more) it is man, who, contemplating such a triangle, is impressed with this relation, and who feels afterwards that it would be impossible for him to contemplate it without such an impression. If this feeling of the relation never had arisen, and never were to arise in any mind, though the squares themselves might still exist as separate figures, their equality would be nothing, exactly as justice and injustice would be nothing, where no relation of moral emotion had ever been felt; for equality, like justice, is a relation, not a thing; and, if strictly analysed, exists only, and can exist only, in the mind, which on the contemplation of certain objects is impressed with certain feelings of relation; in the same manner as right and wrong,

virtue and vice, relate to emotions in some mind that has contemplated certain actions, without whose contemplations of the actions there could be no right nor wrong, virtue nor vice, as there could be no other relation without a mind that contemplates the objects said to be related.

‘If, then, it be not necessary, in the case of a science which we regard as the surest of all sciences, that the proportions of figures should be any thing inherent in the figures, why should it be required, before we put confidence in morality, that right and wrong should be something existing in the individual agents? It is not easy, indeed, to understand what is meant by such an inference as is required in this postulate; or what other relations actions can be supposed to have as right or wrong than to the minds which are impressed by them with certain feelings. Of this, at least, we may be sure, that if any doubt can truly exist as to relations which we and all mankind have felt, since the creation of the very race of man, the reference which Dr. Price (and he might have joined Cudworth, Clarke, and Wollaston) would make of our moral sentiments to reason, would leave the difficulty and the doubt exactly where they were before; since reason is but a principle of our mental frame, like the principle which is the source of moral emotion, and has no peculiar claim to remain unaltered in the supposed general alteration of our mental constitution. What we term reason is only a brief expression of a number of separate feelings of relation, of which the mind might or might not have been formed to be susceptible. If the mind of man remain as it is, our moral feelings, in relation to their particular objects, are as stable as our feelings of any other class; and, if the mind of man be altered in all its functions, it is absurd for us to make distinctions of classes of feelings in the general dissolution of every thing which we at present know: it is absurd even to guess at the nature of a state which arises from a change that is imaginary only, and that by our very supposition is to render us essentially different in every respect from the state with which we are at present acquainted. It is a very powerless scepticism, indeed, which begins by supposing a total change of our nature. We might perhaps have been formed to admire only the cruel, and to hate only the benevolent; as, in spite of an axiom that now seems to us self-evident, we might all have been formed to think with the lunatic, that the cell in which he is confined is larger than the whole earth of which it is a part.’

The above bears the striking impress of a master mind. If Cudworth and Price, Clarke and Wollaston, with all their ostentatious erudition, and mathematical science, had understood the nature of reason, of relation, and of proportion half as well as Dr. Brown, they would never have furnished us with so much literary lumber, for dark dusty corners of neglected shelves, visited only by moths and book-worms. We cannot do better perhaps than give at once, in connexion with the above, a few abbreviated selections from Dr. Brown’s Lectures, which we had intended to insert somewhere on account of their instructive importance; and

it is but justice to his memory, to prevent, if possible, misapprehensions of his statements concerning the nature of right and wrong, virtue and vice, as not being absolute entities but mere relations.

‘Much of the perplexity which has attended enquiries into the theory of morals has arisen from distinctions which seemed to be the result of nice and accurate analysis, but in which the analysis was merely verbal and therefore not real. What is it that constitutes an action virtuous? What is it which constitutes the moral obligation to perform certain actions? What is it which constitutes the merit of him who performs certain actions? These have been considered as questions essentially distinct; and because philosophers have been perplexed in attempting to give different answers to all these questions, and have still thought that different answers were necessary, they have wondered at difficulties which themselves created; and, struggling to discover what could not be discovered, have often been entangled in scepticism themselves, or have stated so many unmeaning distinctions as to furnish occasion of ridicule and scepticism to others. One simple proposition has been converted into an endless circle of propositions, each proving and proved by that which precedes or follows it; though in fact nothing is proved but the confusion of the writer entangled in a thicket of verbalities. Why has any one merit in a particular action? Because he has done an action that was virtuous. And why was it virtuous? Because it was an action which it was his duty in such circumstances to do. And why was it his duty in such circumstances? Because there was a moral obligation to perform it. And why do we say that there was a moral obligation to perform it? Because if he had not performed it he would have violated his duty and been unworthy of our approbation. In this circle we might whirl round for ever, with the semblance of reasoning indeed, but only with the semblance; our answers, though verbally different, being merely the same proposition repeated in different forms, and requiring therefore in all its forms to be proved or not requiring proof in any of them. To have merit, to be virtuous, to have done our duty, to have acted in conformity with obligation—all mean the same thing, and have reference to one feeling of the mind, that feeling of approbation which attends the consideration of virtuous actions.

‘Virtue is nothing in itself, but only a general name for certain actions, which agree in exciting, when contemplated, a certain emotion of the mind. There is philosophically considered, and in strict accuracy of speech, no virtue, no vice, but there are virtuous agents and vicious agents. In thinking of virtue we are not to look for anything self-excited like the universal essences of the schools, and eternal like the Platonic ideas; but a felt relation and nothing more. We are to consider only agents and the emotions which these agents excite; and all that we mean by the moral differences of actions is their tendency to excite one emotion rather than another.’

We have seen then that as Dr. Hutcheson's

theory of morals rests upon the assumption of a kind of moral instinct, or moral sense, that of Dr. Brown differs in nothing from it except that instead of instinct or sense he prefers an original or innate kind of emotion or susceptibility of our nature. Dr. Smith again pronounces for sympathy as the origin and foundation of moral distinctions; the notion of which was probably suggested to his mind by the following passage of Hutcheson's *Moral Philosophy*, Book 1. chap. 9. ‘There are other still more noble senses and more useful: such is that sympathy or fellow-feeling, by which the state and fortunes of others affect us exceedingly, so that by the very power of nature (the Dr. could jump into a conclusion or first principle) previous to any reasoning or meditation, we rejoice in the prosperity of others (of course antipathy is an original sense too, so that, by the very power of nature, some men at least rejoice in the adversity of others), and sorrow with them in their misfortunes; as we are disposed to mirth when we see others cheerful, and to weep with those that weep, without any consideration of our own interests. Hence it is that scarce any man can think himself sufficiently happy, though he has the fullest supplies of all things requisite for his own use or pleasure; he must also have some tolerable stores for such as are dear to him; since their misery or distress will necessarily disturb his own happiness. By means of this sympathy, and of some disinterested affections, it happens, as by a sort of contagion or infection, that all our pleasures, even those of the lowest kind, are strangely increased by their being shared with others. There is scarce any cheerful or joyful commotion of mind which does not naturally require to be diffused and communicated. What is agreeable, pleasant, witty, or jocose, naturally bursts forth, and breaks out among others, and must be imparted. Nor on the other hand is there anything more uneasy or grievous to a man than to behold the distressing toils, pains, griefs, or misery of others, especially of such as have deserved a better fate.’

We rather think this notable passage is to be considered as the germ of the theory of sympathy. The following remarks upon it by Dr. Brown are so much to the purpose that we shall present them instead of any criticism of our own:—‘Dr. Smith professes to explain, by the intervention of sympathy, feelings which must have existed previously to the sympathy itself. It is on a mere assumption, or rather on an inconsistency still more illogical than a mere assumption, that the great doctrine of his system is founded. That his own penetrating mind should not have discovered the inconsistencies involved in his theory, and that these should not have obviously appeared to many of his philosophic readers and admirers, may in part have arisen, like many other seeming wonders of the kind, from the ambiguities of language. The meaning of the word sympathy is not sufficiently definite to present always one clear notion to the mind. It is generally employed to signify a mere participation of the feelings of others; but it is frequently used also as significant of approbation. To say that we sympathise with any one, in what he has felt or done, means often that

we thoroughly approve of his feelings; and, in consequence of this occasional use of the term, the theory which would identify all our moral approbation with sympathy was doubtless admitted more readily both by its author and his followers; since what was not true of sympathy, in its strict philosophic sense, was yet true of it in its mixed popular sense. If the word had been always strictly confined to its two accurate meanings, it seems as impossible that any one should have thought of ascribing moral sentiments to sympathy as of ascribing to an echo the original utterance of the voices which it returns to our ear, or the production of the colors presented to our eye in the mirror, to the mirror itself which has only received and reflected them.

‘Of all the principles of our mixed nature sympathy is perhaps one of the most irregular, varying not in different individuals only, but even in the same individual in different hours or different minutes of the same day, and varying not with slight differences, but with differences of promptness and liveliness, with which only feelings the most capricious could be commensurable. If our virtue and vice, therefore, or our views of actions as right and wrong, varied with our ever varying sympathy, we might be virtuous at morning, vicious at noon, and virtuous again at night, without any change in the circumstances of our action, except in our greater or less tendency to vividness of sympathy, or to the expectation of more or less vivid sympathies in others.’

Sympathy is manifestly as unsuitable a foundation of morals as a shifting sand bank would be for the superstructure of a temple; we only wish that the foundation which Dr. Brown himself attempted to lay were far more firm and certain. If the reader has never seen Smith’s *Theory of Moral Sentiments*, he must not suppose that the book, though wrong in its first principle, is wholly absurd or worthless. It has much real excellence, and we know of few books half so charming. We have spoken of it as a delightful philosophic romance, and we do not envy those their taste who would not prefer it to any romance or novel ever yet published. It is full of profound reflections which seem almost too obvious to merit attention merely because they are presented in an easy playful manner. Dr. Smith’s genius nowhere appears to such advantage as in the *Theory of Moral Sentiments*. Dr. Brown pronounces upon it: one of his happiest eulogies, when he says, ‘It is valuable, not for the leading doctrine of which we have seen the futility, but for the minor theories which are adduced in illustration of it; for the refined analysis which it exhibits in many of these details; and for an eloquence which adapts itself to all the temporary varieties of its subject, familiar with a sort of majestic grace, and simple even in its magnificence, can play amid the little decencies and proprieties of common life, or rise to all the dignity of that sublime and celestial virtue which it seems to bring from heaven indeed, but to bring it down gently and humbly to the humble bosom of man.’ This is truly fine in the best sense, and evidently can amare: genius ever delights to contemplate, admire, and praise genius.

It appears then that, notwithstanding their di-

versities, Shaftesbury, Hutcheson, Stewart (though he is somewhat equivocal and almost a nondescript), Brown, and Smith, may all be classed together as natural-sentiment moral philosophers. The three varieties of the class are instinct or moral sense, susceptibility or emotion, and sympathy. The class nearest to the above are the intellectualists, or immutable and eternal principle moral philosophers, such as Cudworth and Price, Clarke and Wollaston. They will not detain us long after the notice already taken of them; for they are now almost quite obsolete.

Concerning Cudworth we have the following notice from the pen of Mr. Stewart, who was sufficiently disposed to eulogise the author of the *Intellectual System* and of the treatise of *Immutable Morality*. ‘Cudworth (he remarks, *First Dissertation* p. 65) was one of the first who successfully combated the philosophy of Hobbes. In the prosecution of his very able argument on this subject, he displays a rich store of enlightened and choice erudition, penetrated throughout with a peculiar vein of sobered and subdued Platonism, whence some German systems (such as that of Kant) have borrowed their richest materials. But the principal importance of Cudworth as an ethical writer, arises from the influence of his argument concerning the immutability of right and wrong on the various theories of morals which appeared in the course of the eighteenth century. To this argument may more particularly be traced the origin of the celebrated question, Whether the principle of moral approbation is to be ultimately resolved into reason or sentiment? a question which has furnished the chief ground of difference between the systems of Cudworth and of Clarke on the one hand, and those of Shaftesbury, Hutcheson, Hume, and Smith on the other.

‘The intellectual system of Cudworth embraces a field much wider than his treatise of *Immutable Morality*. The latter is particularly directed against the ethical doctrines of Hobbes and the Antinomians; but the former aspires to tear up by the roots all the principles, both physical and metaphysical, of the Epicurean philosophy. It is a work, certainly, which reflects much honor on the talents of the author, and still more on the boundless extent of his learning; but it is so ill suited to the taste of the present age, that, since the time of Mr. Harris and Dr. Price, I scarcely recollect the slightest reference to it in the writings of our British metaphysicians. Of its faults (beside the general disposition of the author to discuss questions placed altogether beyond the reach of our faculties) the most prominent is the wild hypothesis of a plastic nature; or in other words ‘of a vital and spiritual but unintelligent agent created by the Deity for the execution of his purposes. Notwithstanding, however, these and many other abatements of its merits, the *Intellectual System* will for ever remain a precious mine of information to those whose curiosity may lead them to study the spirit of the ancient theories; and to it we may justly apply what Leibnitz has somewhere said, with far less reason, of the works of the schoolmen, ‘*Scholasticos agnosco abundare ineptiis; sed aurum est in illo cæno*’

There is a fair portion of the writer's usual grandiloquence in this; but, notwithstanding all the pomp and circumstance of lofty statement, it is abundantly manifest that, even according to his own judgment or reluctant admission, the merits of Cudworth are of such a kind as to reflect no reproach upon the present age that they are little suited to its taste. If other Harrisses and Prices were to arise, we would insist on no other proof of the sincerity of their admiration for Cudworth, but that they should do penance by patiently reading him carefully over once at least every year. But we will give the reader the most favorable specimen which Mr. Stewart could select of the chastened and subdued Platonism of Cudworth. 'The mind,' according to this author, 'perceives, by occasion of outward objects, as much more than is represented to it by sense, as a learned man does in the best written book, than an illiterate person or brute. To the eyes of both the same characters will appear, but the learned man in those characters will see heaven, earth, sun, and stars; read profound theorems of philosophy or geometry; learn a great deal of new knowledge from them, and admire the wisdom of the composer; while, to the other, nothing appears but black strokes drawn on white paper. The reason of which is that the mind of the one is furnished with certain previous inward anticipations, ideas, and instruction, that the other wants. In the room of this book of human composition, let us now substitute the book of nature, written all over with the characters and impressions of divine wisdom and goodness, but legible only to an intellectual eye. To the sense both of man and brute there appears nothing else in it, but as in the other, so many inky scrawls; that is, nothing but figures and colors. But the mind, which hath a participation of the divine wisdom that made it, upon occasion of the sensible delineations, exerting its own inward activity, will have not only a wonderful scene and large prospects of other thoughts laid open before it, and variety of knowledge, logical, mathematical, and moral displayed; but also clearly read the divine wisdom and goodness in every page of this great volume, as it were written in large and legible characters.' Mr. Stewart remarks, on this quotation, 'I do not pretend to be an adept in the philosophy of Kant, but I certainly think I pay it a very high compliment, when I suppose that, in the Critic of Pure Reason, the leading idea is somewhat analogous to what is so much better expressed in the foregoing passage.' So it would seem Cudworthism is the germ or embryo of Kantism. This idea is not without some verisimilitude. Indeed some of the Germans themselves have remarked the identity of their doctrines. 'That Cudworth,' says Mr. Stewart, 'has blended with his principles a vein of Platonic mysticism which is not to be found in Kant is undeniable; but it does not follow from this that none of Kant's leading ideas are borrowed from the writings of Cudworth.'

Buhle, who will not allow by any means that Kant borrowed from Cudworth, finds a wonderful resemblance in the doctrines of Kant and those of Price. La philosophie morale de Price

présente en effet une analogie frappante avec celle de Kant. The moral philosophy of Price presents in effect a striking agreement with that of Kant. And again, he says, 'The most remarkable of all the modern moral philosophers of England is without contradiction Richard Price. We perceive a very striking conformity in his ideas concerning the foundations of morality with those of Kant, yet it is not possible to raise the least doubt as to the entire originality of the latter.' Upon this Mr. Stewart asks, 'Is there any thing of importance in the system of Price which is not borrowed from the Treatise of Immutable Morality? The distinguishing merit of this learned and most respectable writer is the good sense with which he has applied the doctrines of Cudworth to the sceptical theories of his own times. Our critic can blow cold and hot, and he does not always speak thus respectfully of Dr. Price; but can admit that the Review of the Principal Questions in Morals is very confused and obscure; which we have already seen was the opinion also of Dr. Brown. The truth is, the work of Dr. Price was an abortive attempt to revive the obsolete doctrines of Cudworth. Dr. Price was we believe a worthy man and a very respectable mathematician and calculator (though his calculations were somewhat awry about the national debt); but whenever he meddles with metaphysical matters his mind seems muddled.'

We have hitherto forbore to analyse the theory of Cudworth and Price because it is essentially the same as that of Clarke, and as we shall find of Wollaston also. The only difference is that, in addition to the unideal vacuity and obscurity common to them all, Cudworth's and Price's notions have their local habitation in the Platonic regions; or rather perhaps they are in a kind of friendly alliance or combination with Platonic mysticism. Platonic mysticism, however, does not do well when chastened and subdued, as Mr. Stewart terms it, in his eulogy of Cudworth. It does not combine well when partially used as an ingredient in intellectual systems, or moral theories; and had Cudworth and Price possessed more metaphysical sagacity they would have either taken Platonism entire or not taken it at all.

The moral theory of Clarke and Wollaston is so indefinite that it is almost as difficult to deal with it or decide upon it as about the color of the chameleon; for after all their elaborate statements and ratiocinations about it, and about it, we never feel absolutely sure what they really mean. They ring many changes upon fitness and congruity and conformity to truth; they employ many very learned forms of speech and many pompous terms about these entities, but when we would strip off the cumbrous apparel or gorgeous array of words, and examine the bare thoughts, they seem to perish in the act of undressing them. The remarks of Dr. Brown on these once famed, but now almost forgotten authors, have so much brevity and justness that we cannot do better perhaps than quote them.

'These considerations must convince you of the inadequacy of the moral systems which make virtue, in our contemplation of it, a sort of pro-

duct of reasoning like any other abstract relation, which we are capable of discovering intellectually; that of Clarke, for example, which supposes it to consist in the regulation of our conduct, according to certain fitnesses which we perceive in things, or a peculiar congruity of certain relations to each other; and that of Wollaston, which supposes virtue to consist in acting according to the truth of things, in treating objects according to their real character, and not according to a character or to properties which they truly have not,—a system which is virtually the same as that of Clarke, expressing only more awkwardly what is not very simply developed indeed, even in Dr. Clarke's speculations. These systems, independently of their general defect in making incongruity the measure of vice, assume, it must be remembered, the previous existence of feelings for which all the congruities of which they speak are insufficient to account.

Every human action, in producing any effect whatever, must be in conformity with the fitnesses of things; the limitation of virtue, therefore, to actions which are in conformity with these fitnesses, has no meaning unless we have previously distinguished the ends which are morally good from those that are morally evil, and limited the conformity of which we speak to one of these classes. In this case, however, the theory of fitnesses, it is evident, far from accounting for the origin of moral distinctions, proceeds on the admission of them; it presupposes a distinctive love of certain virtuous ends, by their relation to which all the fitnesses of actions are to be measured; and the system of Dr. Clarke, therefore, if stripped of its pompous phraseology and translated into common language, is nothing more than the very simple truism or tautology, that to act virtuously is to act in conformity with virtue.

'From this doctrine of conformity to the fitness of things the theory of Wollaston, in which virtue is made to consist in the conformity of our actions to the true nature of things, scarcely differs in any respect except as being a little more circuitous and complicated. The work of Mr. Wollaston, with all its ostentatious erudition, contains so much manifest absurdity, that, if I were desirous of convincing any one of the influence of a system in producing in the mind of its author a ready acquiescence in errors the most absurd, in explanations far more necessary to be explained than the very difficulties which they professed to remove, I know no work which I could put into his hands better suited for this purpose than the Religion of Nature Delineated.'

We do not think that Wollaston's work ever attained much credit. It did not drop still-born from the press, for the author had some fortune; but it was very soon laid out for dead on old book-stalls, where it may still be seen among other literary mummies, though it has almost ceased to have even that kind of existence. We do not remember how long it is since the notice of the author first appeared in Gen. Dict.; but there it is said that his Religion of Nature Delineated is an attempt to prove the truth of religion on mathematical principles. It is a curious

work, but very abstruse. His predecessor, in the high à priori demonstrative way, had for a time at least a better fate; for it was a part of the literary fashion or idolatry, forty or fifty years ago, to cry up Dr. Samuel Clarke as a sort of second Newton, an intellectual prodigy in mighty mathematico-metaphysical reasoning, only too profound or sublime for common minds to comprehend him, which could only therefore stare at a distance in wonder and astonishment. It is true that wicked wit, Voltaire, designated him a reasoning machine; and if he had compared him to a barrel organ, made to play off some dozen self-designated demonstrations with wonderful noise and facility, he would have been perhaps still nearer the mark. When we wish to have an image of a mathematico-metaphysico-automaton we think of Dr. Samuel Clarke. We are aware of the circumstance which contributed mainly to the high reputation of Dr. Clarke. But we have much doubt as to the wisdom of hailing with rapture and applause such champions of religion and morality.

The religious and moral utility of such demonstrative grandiloquence, self-importance, and vituperation as the following, we confess, comes to our mind in a very questionable shape. Having professed to have done we know not well what demonstrative feats of intellectual might and heroism, Dr. Clarke opens his Discourse concerning the Unalterable Obligations of Natural Religion, in the following high and confident manner:—'It remains, now, in order to complete my design of proving and establishing the truth and excellency of the whole superstructure of our most holy religion, that I proceed, upon this foundation of the certainty of the being and attributes of God, to demonstrate in the next place the unalterable obligations of natural religion, and the certainty of divine revelation; in opposition to the vain arguings of certain vicious and profane men, who, merely upon account of their incredulity, would be thought to be strict adherers to reason, and sincere and diligent enquirers into truth; when indeed, on the contrary, there is but too much cause to fear, that they are not at all sincerely and really desirous to be satisfied in the true state of things, but only seek, under the pretence and cover of infidelity, to excuse their vices and debaucheries, which they are so strongly inslaved to, that they cannot prevail with themselves upon any account to forsake them; and yet a rational submitting to such truths, as just evidence and unanswerable reason would induce them to believe, must necessarily make them uneasy under, and self condemned in, the practice of them. It remains, therefore, I say, in order to finish the design I proposed to myself of establishing the truth and excellency of our holy religion, in opposition to all such vain pretenders to reason as these, that I proceed at this time, by a continuation of the same method of arguing by which I before demonstrated the being and attributes of God, to prove distinctly the following propositions:—

1. That the same necessity and eternal different relations, that different things bear to one another; and the same consequent fitness or un-

fitness of the application of different things or different relations one to another; with regard to which the will of God always and necessarily does determine itself to choose to act only what is agreeable to justice, equity, goodness, and truth, in order to the welfare of the whole universe; ought likewise constantly to determine the wills of all subordinate rational beings, to govern all their actions by the same rules for the good of the public in their respective stations; that is, these eternal and necessary differences of things make it fit and reasonable for creatures so to act; they cause it to be their duty, or lay an obligation upon them so to do, even separate from the consideration of these rules being the positive will or command of God; and also antecedent to any respect or regard, expectation or apprehension, of any particular private and personal advantage or disadvantage, reward or punishment, either present or future, annexed either by natural consequence, or by positive appointment, to the practice or neglecting those rules.

2. 'That though these eternal moral obligations are indeed of themselves incumbent on all rational beings, even antecedent to the consideration of their being the positive will and command of God; yet that which most strongly confirms, and in practice most effectually and indispensably inforces them upon us, is this, that both from the nature of things, and perfections of God, and from several other collateral considerations, it appears that as these eternal moral obligations are really in perpetual force, merely from their own nature and the abstract reason of things; so also they are moreover the express and unalterable will, command, and law of God to his creature, which'—

But enough and more than enough. We have as little affection for the atheistical opinions of Hobbes or of Spinoza, as Dr. Clarke could possibly have, yet we blush and grieve to think that they should be assailed, and religion defended in this manner, by a learned doctor of high mathematical and metaphysical celebrity; and that in the eighteenth century of the Christian era, the wisest and best men of all denominations of the Christian church should vie with one another in applauding it as triumphant championship. We will not give utterance to our thoughts and feelings, else we could a tale unfold as to the effects of such theological and ethical championship on some minds; for, compared with such reasonings as those of Clarke, our experience pronounces the reasonings of Hobbes, Spinoza, Boyle, and Hume, powerless and inert, or rather salutary. But we are sincerely desirous of doing nothing but good to the minds of men; and, being afraid to take our own experience as a criterion for other minds, we frequently know not well what to do, or how to write. We are convinced, however, at least of this, that it is now time to dismiss Clarke and Wollaston after Cudworth and Price. We will therefore take our full and final leave of them with two or three remarks.

It must have appeared to the discerning reader that whilst there is a sort of general or essential agreement in the opinions of Cudworth,

Price, Clarke, and Wollaston, so far as they can be ascertained; yet the statements of no two or more of them are absolutely identical. Price was not quite satisfied with the doctrine of Cudworth, and attempted (very unsuccessfully) to reform or remould it into a less questionable or less objectionable shape, by chastening and subduing yet more the chastened and subdued Platonism of his master. Clarke would have nothing to do with the chaste and tame Platonism of Cudworth, but was fully prepared and duly qualified to demonstrate the eternal and immutable nature of morality in the high a priori way; and was an ethical Hercules or logical Boanerges among 'the necessary and eternal relations that different things bear to one another, and the consequent fitness or unfitness of the application of different things or different relations one to another.' Wollaston was not quite satisfied with Clarke's manner of putting this mighty matter, or, having too much spirit and originality to say merely after him as the clerk says after the priest, he would not have fitness and unfitness, but conformity and disconformity to truth, as the eternal and immutable principles of natural religion and morality. There is something in all this to put one in mind of what is related of the old builders of Babel. If we view these immutable-principle moral philosophers, in connexion with their natural-sentiment fellow-laborers, their tongues are still more strangely divided. Indeed Dr. Price was evidently alarmed at the ethical efforts of Shaftesbury and Hutcheson as equally destructive and subversive of all moral distinctions with the atheistical reasonings of the most avowed antimoral-distinction philosophers, and hoped to perform a most meritorious service to religion and morality by calling in the aid of Cudworth as the only means of staying the plague in the camp. We are far from thinking that the fears of Dr. Price were groundless or visionary. It is true, the natural-sentiment moral philosophers have their fears and apprehensions too, and strenuously assert that the natural-sentiment principle is the only rock of moral safety and defence; that if this be abandoned we must be plunged headlong into the eternal abyss of absolute scepticism; and that if a moral principle be not admitted or assumed as innate or inherent in the human mind, itself prior to and independent of all acquired notions and feelings, there can be no moral distinctions, no virtue and vice, no right and wrong whatever.

If the natural-sentiment moral principle be any thing; that is, if the doctrines of Shaftesbury, Hutcheson, Smith, Stewart, and Browne (and they would have it seem, according to Mr. Stewart's classification, Mr. Hume to belong to them) mean any thing, we are to admit or assume that there is in the human mind an instinctive, a natural, an inherent, love for virtue, and hatred to vice. If this were any thing more or better than mere theoretic assumption, sure enough virtue would be put on a firm footing or solid foundation among us. It might be liable to a few accidental injuries perhaps; casualties will happen in the best ordered state of things we are at present acquainted with

but in the case supposed, vices being merely casualties or anomalous deviations and exceptions, the human mind, and consequently human society, will soon right itself again by the vis naturæ—the inherent force of natural original tendency. This, or at least something very like this, would seem to be the fair import or necessary consequence of some of Dr. Brown's most eloquent lectures. But, much as we admire his genius and talent, we are afraid the doctrine is too good to be true. We have not been able to find any confirmation of it from experience, from observation, from history, sacred or profane. All our experimental and inductive researches (concerning which Mr. Stewart pays so many handsome and flattering compliments to his *Philosophy of Mind*) for that purpose have hitherto proved fruitless. Nothing we conceive is more devoutly to be wished than that virtue should be put upon a sure footing or firm foundation; and we are only sorry that the success both of the intellectual-principle and natural-sentiment principle moral philosophers has not been equal to the goodness of their intentions, or to their strenuous efforts. As Adam Smith so well remarks, we naturally judge by the event rather than the intent: it is success or triumph that makes the hero of our admiration and applause.

In direct opposition to all the above moral theorists, we have to present another group of philosophic theorists concerning human nature; but we know not well how to designate them, though they are unquestionably of the same class, distinguished indeed by considerable varieties. We might, perhaps, if it would not seem invidious, term them the atheistical, or antimoral-distinction, or utilitarian theorists. Perhaps Mr. Stewart would have them called Epicurean moral philosophers; and certainly they have much affinity to Epicurus, and might in a general way be conveniently classed with him. We wish not to offend Mr. Bentham by using dyslogistic terms or designations. But that philanthropic philosopher will admit that the fault is to be charged to our established language rather than to us who use it; for, without much very troublesome or inefficient circumlocution, how are we wholly to avoid dyslogistic phraseology? How indeed is it practicable to avoid it without fabricating a new language? We are persuaded that the individual alluded to (for whom, as a philanthropic philosopher and jurisconsult, we entertain every sentiment of esteem) is not satisfied with his attempts to construct a neutrologistic language. We try as much as possible to use the language we have ready made to our hand neutrologistically, but we are too diffident of our ability and success to imitate Mr. Bentham in attempting to fabricate a new one. In short, we have as little odium theologium or odium philosophicum or any odium whatever towards those whom we have attempted to indicate, and of whom we are now to write, as towards Cudworth and Price, or Smith and Brown. Our wish is to deal fairly and honestly with those who come under consideration as philosophers, without fear or favor, fondness or antipathy, on account of their peculiar opinions.

Perhaps, indeed, we shall incur the imputation of being too tender and partial towards those of whom we are about to speak.

The philosophers alluded to as belonging to the same ethical class or genus are Hobbes, Mandeville, Hume, Bentham, and we might add, if it were worth while to notice them, Montaigne, Rochefoucault, Diderot, Helvetius, and in short all those usually called the French philosophers, or the advocates of the new philosophy. We intend only, however, to take some notice of Hobbes, Mandeville, and Hume. The last mentioned indeed is so equivocal that it is difficult to know where to put him, except by himself. We have seen that Mr. Stewart ranges him among the natural-sentiment moral philosophers, with Shaftesbury, Hutcheson, and Smith; and he is really so much of a sentimentalist and sophist withal as not to be very worthy of standing in juxtaposition with Hobbes and Mandeville; but he may be conveniently treated of after them.

Before remarking on Hobbes an observation or two may be offered respecting Locke, who is so equivocal as to be a sort of ethical nondescript. Beattie and Mr. Stewart do not well know what to make of him. The latter is very unwilling to give him up; and, wishing to have the sanction of his established authority, labors might and main to make him perfectly orthodox, though somewhat unguarded and blundering in some of his statements. We shall give a few specimens of his attempts, as throwing some glimmerings on Locke's ethical memory, from that amusing olio the *First Dissertation of the Supplement to the Encyclopædia Britannica*.

'Among the doctrines of Locke, there are two of fundamental importance, which have misled many of his successors. The first of these relates to the origin of our ideas; the second to the power of moral perception, and the immutability of moral distinctions. On both questions, the real opinion of Locke has, if I am not widely mistaken, been very grossly misapprehended, or misrepresented, by a large portion of his professed followers, as well as of his avowed antagonists. 'The first book,' says Dr. Beattie, 'of the *Essay on Human Understanding* tends to establish this dangerous doctrine, that the human mind, previous to education and habit, is as susceptible of any one impression as of any other: a doctrine which, if true, would go near to prove that truth and virtue are no better than human contrivances; or, at least, that they have nothing permanent in their nature, but may be as changeable as the inclinations and capacities of men. Surely this is not the doctrine that Locke meant to establish; but his zeal against innate ideas and principles put him off his guard, and made him allow too little to instinct, for fear of allowing too much.' It is fortunate for Locke's reputation, that, in other parts of his *Essay*, he has disavowed, in the most unequivocal terms, those dangerous conclusions which, it must be owned, the general strain of his first book has too much the appearance of favoring. Lord Shaftesbury was one of the first who sounded the alarm against what he conceived to be the drift of that philosophy which denies the existence of innate principles

Various strictures occur in the *Characteristics*; particularly in the treatise entitled *Advice to an Author*; but the most direct of all his attacks on Locke is in his Eighth Letter, addressed to a student at the university. 'All those called free writers, now-a-days,' he observes, 'have espoused those principles which Mr. Hobbes set a foot in this last age. Mr. Locke, as much as I honor him on account of other writings, and as well as I know him, and can answer for his sincerity as a most zealous Christian and believer, did, however, go in the self-same track. It was Mr. Locke that struck the home blow: for Mr. Hobbes's character, and base slavish principles of government, took off the poison of his philosophy. It was Mr. Locke that struck at all fundamentals, threw all order and virtue out of the world, and made the very idea of these (which are the same with those of God), unnatural and without foundation in our minds.'

This is the very same kind of language as that employed by the bishop of Worcester and the other ecclesiastical dignitaries and antagonists of Locke; though he was more than a match for them in argumentation. In opposition to all such imputations and charges Mr. Stewart insists, of course, that all the world, friends and foes, misunderstood Mr. Locke; and he brings forward some detached passages from his writings in confirmation of his ethical orthodoxy; such as the following:—'He that hath the idea of an intelligent, but frail and weak, being, made by and depending on another, who is omnipotent, perfectly wise, and good, will as certainly know that man is to honor, fear, and obey God, as that the sun shines when he sees it; nor can he be surer, in a clear morning, that the sun is risen, if he will but open his eyes and look that way. But yet these truths, being never so certain, never so clear, he may be ignorant of either, or of all of them, who will never take the pains to employ his faculties as he should to inform himself about them.' 'There is a law of nature, as intelligible to a rational creature and studier of that law, as the positive laws of commonwealths.' 'There is a great deal of difference between an innate law and a law of nature; between something imprinted on our minds in their very original, and something that we, being ignorant of, may attain to the knowledge of, by the use and due application of our natural faculties. And I think they equally forsake the truth who, recurring into the contrary extremes, either affirm an innate law, or deny that there is a law knowable by the light of nature, without the help of positive revelation.' 'He that, with Archelaus, shall lay it down as a principle that right and wrong, honest and dishonest, are defined only by laws, and not by nature, will have other measures of moral rectitude and pravity than those who take it for granted that we are under obligations antecedent to all human constitutions.'

Of course Mr. Stewart was dazzled and delighted with all this evidence that Mr. Locke, notwithstanding many suspicious reasonings, and though not a natural-sentiment or innate instinctive moral philosopher, might yet be ranked with Clarke and Wollaston as perfectly orthodox in the main, respecting the immutability of moral

distinctions, founded in the fitness of things, or in conformity to eternal truth. Nay, such was Mr. Locke's confidence in the law and light of nature, that he was disposed to make little or nothing of the law and light of revelation in comparison with them. Thus, in the concluding paragraph of the ninth chapter, in the third book of his essays, he says:—'Nor is it to be wondered that the will of God, when clothed in words, should be liable to that doubt and uncertainty which unavoidably attends that sort of conveyance. And we ought to magnify his goodness that he hath spread before all the world such legible characters of his works and providence, and given all mankind so sufficient a light of reason, that they to whom the written word never came could not (whenever they set themselves to search), either doubt of the being of a God or of the obedience due to him. Since then the precepts of natural religion are plain and very intelligible to all mankind, and seldom come to be controverted; and revealed truths are liable to the common and natural obscurities and difficulties incident to words; methinks it would become us to be more careful and diligent in observing the former, and less magisterial, positive, and imperious, in imposing our sense and interpretations of the latter.'

Such were the notions of Mr. Locke respecting the clearness and certainty of the light and law of nature; but such were not the notions of Hobbes, from whom he borrowed the mass of his materials. The truth is, Mr. Locke's great work is a motley mixture of eclectic inconsistencies, jumbled together with very little method; and, therefore, it is not very wonderful that Mr. Stewart should have to accuse all the world of misunderstanding him. Only it would have been more reasonable if the metaphysical critic had dwelt more fully and explicitly on the evidence which exists, that Mr. Locke did not understand himself, or know well what he was about. Since, however, according to the high authority of Lord Shaftesbury 'it was Locke who struck the home-blow at all fundamentals, and threw all order and virtue out of the world,' it surely becomes his admirers to be more tolerant towards the memory of his master, who was as superior, philosophically considered, to the disciple as ever Newton was to William Whiston.

In speaking of the ethical doctrines (for we thus term their speculations for the sake of brevity), of Hobbes and of Mandeville, we must begin by remarking that they are founded on a very bad opinion of human nature. In this respect their theories are diametrically opposite to those of most of the natural-sentiment moral philosophers. These last have a sort of beau ideal of human nature, around which their reasonings constantly revolve;—they trace all that is great and good in human society, or is recorded in history, to good principles, tendencies, or instincts, in human nature; and much of what is manifestly evil, too, they would seem to trace to a good original tendency. On the other hand, Hobbes and Mandeville (and others whom it is not worth while to notice), would trace naturally all that is bad in the history of mankind to an evil original tendency, or to selfishness; but even all that is

good, by a skilful management of the evil natural principle. Consequently the former are sentimental panegyrists; the latter are bitter satirists of human nature and human life. It has been laid down, as a kind of axiom, that there is usually more truth in satire than in panegyric; and we suspect the axiom will hold in the present case; and that there is at least a basis of truth about the doctrines of Hobbes and Mandeville which cannot be found in the opposite theories. They seem, at least, to accord best with the actual state and history of mankind; and what is very observable they harmonize very much with the doctrine of the bible; which pronounces the 'heart of man deceitful above all things and desperately wicked;' and that men 'go astray from the womb speaking lies.' If the doctrines of the bible be calculated to abase man, and to stain the pride of human glory, the same may be affirmed of those of Hobbes and Mandeville. The former of these may be compared to Heraclitus, the latter to Democritus; for, as there was something of gloom in the one at beholding the evil which he described, it seems to have been a wicked pleasure to the other to paint human nature in the ugliest and most contemptible forms and colors. Hogarth could never enjoy the work of his hand more than this coarse Dutchman the broad graphic touches of his pen in describing human nature. Mandeville is indeed the Hogarth of moral painters, and we always fancy that we see him in propria persona grinning from behind the canvas. We would have all the ardent lovers of the beau ideal of human nature read Mandeville; and their dulness or their resentment at the insult offered to human dignity must be very powerful indeed if they can long maintain their gravity. If it be all a false picture, or wicked, wilful, misrepresentation, of our noble nature which he gives, he has at least the art of caricaturing its imperfections with infinite dexterity. But though there be much acuteness and talent, and much philosophy too, about the author of the fable of the Bees, or Private Vices Public Benefits, we cannot praise him, or regard him as any thing but a licentious satirist, who wantonly compounds all moral distinctions. In representing human nature as radically bad he accords with the testimony of sacred Scripture; but at that point, abstractedly considered, the accordance stops. The manner and spirit of Mandeville, and his deductions and reasonings from the doctrine of human gravity, are as opposite to those of the bible as darkness is to light. The good men described as writing that book under supernatural guidance, and most of all He whom reverence will not permit us to name in such a connexion, resembled Heraclitus rather than Democritus or Mandeville. The following is a concise but just statement of Mandeville's theory:—

'In some measure akin to the theory of such political moralists as Hobbes, since it ascribes morality, in like manner, to human contrivance, is the system of Mandeville, who considers the general praise of virtue to be a mere artifice of political skill; and what the world consents to praise as virtue in the individual, to be a mere imposition on the part of the virtuous man.

Human life, in short, according to him, is a constant intercourse of hypocrisy with hypocrisy; in which, by an involuntary self-denial, present enjoyment of some kind or other is sacrificed for the pleasure of that praise which society, as cunning as the individual self-denier, is ready to give, but gives only in return for sacrifices made to its advantage. That man, like all other animals, is naturally solicitous only of his personal gratification, without regard to the happiness or misery of others; that the great point with the original lawgivers, or tamers of these human animals, was to obtain from them the sacrifice of individual gratification, for the greater happiness of others; that this sacrifice, however, could not be expected from creatures that cared only for themselves, unless a full equivalent were offered for the enjoyment sacrificed; that as this, at least in the greater number of cases, could not be found in objects of sensual gratification, or in the means of obtaining sensual gratification, which are given in exchange in common purchases, it was necessary to have recourse to some other appetite of man; that the natural appetite of man for praise readily presented itself for this useful end, and that, by flattering him into the belief that he would be counted nobler for the sacrifices which he might make, he was led accordingly to purchase this praise by a fair barter of that, which, though he valued it much, and would not have parted with it but for some equivalent or greater gain, he still valued less than the praise which he was to acquire; that the moral virtues, therefore, to use his strong expression, are 'the political offspring which flattery begot upon pride;' and that when we think we see virtue, we see only the indulgence of some frailty, or the expectation of some praise.'

The above theory is worked up with much effect, and enlivened by striking sketches from low life; and it must be confessed there has always been too much in the actual character of society to give an air of fidelity to the whole representation. In fact, we doubt whether it be not actually a true picture as to the great majority of every people. Rochefoucault, who had so much opportunity and talent for observing the society of a court, resolves all virtue, like Mandeville and Montaigne, and some other acute and reflecting men, into self-love, of which the desire of praise is merely one of its many forms. And sure enough much of what passes and is praised as virtue in the world is quite worthy of such an ignoble origin; and it is amusing to observe what description of illustrations the moral philosophers run to, with breathless eagerness, whenever they wish to set off, to the best advantage, the beau ideal of human excellence, the native dignity of man, and his innate delight in virtue. If our space would permit, we would give some admirable specimens from Dr. Adam Smith's Theory of Moral Sentiments, and from Dr. Brown's Lectures; for we would not think of quoting for the purpose from inferior authors, or mere sentimental declaimers. If however all men could be brought to think absolutely with Mandeville, we might expect indeed that a 'home blow would be struck at all fundamentals, and that all real virtue would be thrown out of

the world.' But there has always been a portion of moral salt in the earth; there have, even in the worst times, been higher principles and influences in operation than those which the Mandeville's understand, and which alone they are qualified to appreciate.

The theory of Hobbes, as already indicated, if not absolutely the same as that of Mandeville, is at least nearly akin to it; in short, the one is, as much as the other, only a modification of the same atheistical system, which assumes the original moral indifference of actions, which considers all morality as mutable and adventitious, a mere entity of circumstances, being sometimes right, sometimes wrong, at one time or place good, at another bad, according to human opinions, prejudices, passions, and habits. This is the basis of what is usually called the new or French philosophy. And it is well for the world that it finds, at least in many of the best and most influential minds, something as steady and powerful as a moral instinct to repel it. Nor is it without benefit to mankind (for thus good is deduced from evil) that such a philosophy should have an opportunity occasionally of developing its latent qualities, and of performing its mighty works or miracles in the open theatre of the world, and in the full view of all nations. The whole process of the French revolution was a sort of experiment in the new philosophy, to demonstrate how innocuous and salutary, how good and profitable to men, atheism is, in all its tendencies, operations, and results. If, according to the followers of Epicurus, fear was the creator of the gods, atheism has had a good chance of being deified and worshipped; for even many of its boldest and most reckless advocates have been dismayed with terror when they have seen its goings forth in the sanctuary of infidelity, arrayed in the awful majesty of irresistible power. The most benevolent ameliorators of the social union or political condition, the most philanthropic utilitarian philosophers, have had enough of evidence laid before them to make them despair of doing much good to the human race on Epicurean principles. Perhaps if the author of *De Cive* and of *Leviathan* were to return to our world, and write upon political and moral subjects, his reasonings would have less affinity with those of Aristippus, of Archelaus, or of Epicurus, than they had before. The moral and political speculations and experiments that have been made within the last hundred years would not be lost upon him; and we would willingly trust his understanding in metaphysical matters, provided it were free from every theoretic bias, and were not under the influence of any moral antipathy to religion.

Hobbes was an acute metaphysician, but he was in effect, or rather in reality, a confirmed atheist. He admitted the Being of a God, or first cause, but he denied the possibility of knowing any thing about Him or It, or what that first cause is or was. Of course this is to all intents and purposes atheism. If we were not afraid of being misunderstood we would say that Hobbes was too good a metaphysician—too acute and reflective—too much of an analytic reasoner to be a mere deist. Such assumptions, and

paralogisms, and conclusions, as satisfy the common multitude of deists, could not satisfy his mind; and, being invincibly opposed to revelation, he embraced a particular modification of atheism as the least absurd or most reasonable kind of belief that he could, or rather would, find. Hobbes could not have reasoned and written, as Mr. Locke has done, about the clearness and certainty of the law of nature, and of the precepts of natural religion.

From atheism of every description or modification the absolute moral indifference of actions necessarily follows; or, as Shaftesbury expresses it, all virtue is thrown out of the world; there may be qualities and actions of human beings that they like or dislike in one another, and reward or punish; there may be political distinctions, and virtues, and vices; but there can be nothing that has been usually called, or that deserves to be called, moral distinctions, or virtues and vices. Hobbes was too acute not to perceive this, and he was too frank not to own it; and therefore he at once resolved all right and wrong, all morality, into the discretionary decision of political authority. In short, according to Hobbes, the government, whatever that government be, whether a democracy or aristocracy, a mixed or simple monarchy, or pure despotism, is the sole lawgiver and judge of morality. This supreme authority can do no wrong, and whatever it decrees is right; and conformity to its decrees is the only immutability morality admits of. The will of king, lords, and commons, is to enact, abrogate, alter, and amend, the moral code, as seemeth good. We have been long said to have an act-of-parliament religion; but it appears we ought to have an act-of-parliament morality also. Nay, we may have an established national morality by a much shorter process, if we choose to enjoy all its benefits. The royal will of a Philip or Ferdinand, of a czar or grand signior, of a Nero or Caligula, is, according to Hobbes, the sole origin, and standard, and measure, of right and wrong, of virtue and vice. But enough; this is too palpable to require refutation. Yet strange, absurd, and bad, as it appears to us, what was Hobbes to do in the matter of morality on his previously assumed atheistical principles? What have others, upon the same principles, been able to do materially different, or better? Let us enquire by examining Mr. Hume's theory of morals.

We have said Mr. Hume's *theory*; but the term, though sufficiently vague, is too definite to be applied to the opinions or speculations of such a subtle, flexible, shifting reasoner, as the author of *An Enquiry concerning the Principles of Morals*, who always contrives to make one set of reasonings counterbalance another, and one sort of principle supersede some other sort of principle; as if the only conclusion possible to come to is, that nothing can be concluded, and that all is vanity, and vexation, and scepticism. Mr. Addison has somewhere said, that he could never rise from the reading of those authors who give degrading representations of our noble nature without being out of humor with himself and every body about him; and we seldom rise from the reading of Hume without being out

of humor with him and his reasonings. Having, in his usual manner of mooted the question as alternate plaintiff and defendant, drawn up in counterarray the arguments pro and con, he then takes his seat on the tribunal of dispassionate judgment, and sums up the whole with the most calm and grave indifference imaginable. 'These arguments on each side (and many more might be produced) are so plausible, that I am apt to suspect, they may, the one as well as the other, be solid and satisfactory; and that reason and sentiment concur in almost all moral determinations and conclusions. The final sentence, it is probable, which pronounces characters and actions amiable or odious, praiseworthy or blameable; that which stamps on them the mark of honor or infamy, approbation or censure; that which renders morality an active principle, and constitutes virtue our happiness, and vice our misery. It is probable, I say, that this final sentence depends on some internal sense or feeling which nature has made universal in the whole species. For what else can have an influence of this nature? But in order to pave the way for such a sentiment, and give a proper discernment of its object, it is often necessary, we find, that much reasoning should precede, that nice distinctions be made, just conclusions drawn, distant comparisons formed, complicated relations examined, and general facts fixed and ascertained.'

This is the first hearing of the chancery case concerning the principles of morals; and our philosopher has had an opportunity of showing all the world that he was as wonderful in judgment as mighty in counsel—that he could be as able a judge on the bench, as erst he was a special pleader at the bar. The claims of reason and of sentiment are held to be equally good, and the question is kept in abeyance. Accordingly in the further hearing of the case the claims of reason seem not only admitted, but exclusively in the first steps of progress attended to; and utility is with some doubt and hesitation thought to be probably, in part at least, the origin and measure of virtue. 'We may observe, that in displaying the praises of any humane beneficent man, there is one circumstance which never fails to be amply insisted on, namely, the happiness and satisfaction derived to society from his intercourse and good offices. * * * As such topics of praise never fail to be employed, and with success, where we would inspire esteem for any one; may it not thence be concluded, that the utility resulting from the social virtues forms at least a part of their merit, and is one source of that approbation and regard so universally paid to them?'

'When we recommend even an animal or plant as useful and beneficial, we give it an applause and recommendation suited to its nature. * * * A machine, a piece of furniture, a vestment, a house well contrived for use and convenience is so far beautiful, and is contemplated with pleasure and approbation. * * * In general, what praise is employed in the simple epithet *useful*! What reproach in the contrary!'

It would seem then that in part at least utility is merit, and that a good man has at least as much virtue about him as a good machine, or piece of furniture, or vestment, or well-contrived

house. In the further hearings of the case, our judge gets rid of his doubt and hesitation, and pronounces finally and absolutely in favor of utility, as forming not a part merely, but the whole of merit. All the virtues are resolved into or ascribed to utility. This is the principle of all moral distinctions—the only source and standard and measure of all human excellence; and as reason must find out what is useful about men or machines, or vestments, of course moral distinctions are referrible to reason and not to sentiment. Now then that morality is placed on the firm and broad foundation of utility, in conformity with reason, it will surely rest and remain secure. We might have supposed, at least, that the judge would not have disturbed his own decision, so fully and gravely delivered, after so hesitatingly and patiently weighing all the arguments and evidence; but it was scarcely recorded when the sentence must be reversed; for it is found out, by a sort of after-process of reasoning, that utility and reason have nothing at all to do with merit, or virtue, or morality; but that the whole is ascribable to mere blind sentiment, for which no reason can be assigned, the very attempt to account for which, indeed, is ridiculed as absurd. The philosophic advocate of utility as the sole foundation of all morality can easily abandon his client, unsay all his wise sayings, counterargue all his own arguments, and wriggle out of all the obligations of consistency into full and free liberty to take up whatever new position vanity, or scepticism, or sophistry may present. The following is the prelusive flourish in showing a more excellent way of moral philosophy than that of utility and reason:

'Treating vice with the greatest candor, and making it all possible concessions, we must acknowledge, that there is not in any instance the smallest pretext for giving it the preference above virtue, with a view to self-interest; except, perhaps, in the case of justice, where a man, taking things in a certain light, may often seem to be a loser by integrity. And though it is allowed that without a regard to property no society could subsist; yet, according to the imperfect way in which human affairs are conducted, a sensible knave, in particular incidents, may think that an act of iniquity or infidelity will make a considerable addition to his fortune, without causing any considerable breach in the social union and confederacy. That 'honesty is the best policy,' may be a good general rule; but is liable to many exceptions: and he, it may perhaps be thought, conducts himself with most wisdom who observes the general rule, and takes advantage of all the exceptions. I confess that if a man thinks that this reasoning requires an answer, it will be a little difficult to find any which will to him appear satisfactory and convincing.'

Very well stated: we wish not to have the doctrine of utilitarian moral philosophy differently handled; this is at least one useful and convincing way of examining its character and credentials. But hear him out:—'If the foregoing hypothesis be received, it will now be easy for us to determine the first question started, (started truly to be run down!) concerning the

general principle of morals, * * * we may resume it at present, and examine how far either reason or sentiment enters into all decisions of praise or censure. One principal foundation of moral praise being supposed to lie in the usefulness of any quality or action, it is evident that reason must enter for a considerable share in all decisions of this kind; since nothing but that faculty can instruct us in the tendency of qualities and actions, and point out their beneficial consequences to society and to their possessor. In many cases this is an affair liable to great controversy: doubts may arise; opposite interests may occur; and a preference must be given to one side from very nice views, and a small overbalance of utility. * * * Though reason, when fully assisted and improved, be sufficient to instruct us in the pernicious or useful tendency of qualities and actions, it is not alone sufficient to produce any moral blame or approbation. Utility is only a tendency to a certain end; and, were the end totally indifferent to us, we should feel the same indifference towards the means. It is requisite a sentiment should here display itself, in order to give a preference to the useful above the pernicious tendencies.'

Our moral philosopher soon becomes more explicit and peremptory; and if the sceptic be any where transmuted into a dogmatist it is when treating of what he terms 'the blind but sure testimony of taste and sentiment.' 'The hypothesis (he says, Appendix 1, concerning Moral Sentiment) which we embrace is plain. It maintains that morality is determined by sentiment; it defines virtue to be whatever mental action or quality gives a spectator the pleasing sentiment of approbation; and vice the contrary. We then proceed to examine a plain matter of fact, to wit, what actions have this influence: we consider all the circumstances in which these actions agree: and thence endeavour to extract some general observations with regard to these sentiments. If you call this metaphysics, and find any thing abstruse here, you need only conclude that your turn of mind is not suited to the moral sciences.

* * * When Nero killed Agrippina, all the relations between himself and the person, and all the circumstance of the fact, were previously known to him: but the motive of revenge, or fear, or interest, prevailed in his savage heart over the sentiment of duty and humanity. And when we express that detestation against him, to which he himself in a little time became insensible; it is not that we see any relations of which he was ignorant; but that, from the rectitude of our disposition, we feel sentiments against which he was hardened, from flattery and a long perseverance in the most enormous crimes. In these sentiments then, not in a discovery of relations of any kind, do all moral determinations consist. Before we can pretend to form any decision of this kind, every thing must be known and ascertained on the side of the object or action. Nothing remains but to feel, on our part, some sentiment of blame or approbation; whence we pronounce the action criminal or virtuous.

'This doctrine will become still more evident, if we compare moral beauty with natural, to which, in many particulars, it bears so near a

semblance. * * * In all decisions of taste or external beauty, all the relations are before hand obvious to the eye; and we thence proceed to feel a sentiment of complacency or disgust, according to the nature of the object and disposition of our organs. * * * Attend to Cicero, while he paints the crimes of a Verres or a Catiline; you must acknowledge that the moral turpitude results, in the same manner, from the contemplation of the whole, when presented to a being, whose organs have such a particular structure and formation. The orator may paint rage, insolence, barbarity on the one side: meekness, suffering, sorrow, innocence, on the other: but if you feel no indignation or compassion arise in you, from this complication of circumstances, you would in vain ask in what consists the crime or villany which he so vehemently exclaims against; at what time, or on what subject, it first began to exist; and what has become of it a few months afterwards, when every disposition and thought of all the actors is totally altered, or annihilated. No satisfactory answer can be given to any of these questions upon the abstract hypothesis of morals; and we must at last acknowledge, that the crime or immorality is no particular fact or relation, which can be the object of the understanding: but arises entirely from the sentiment of disapprobation, which, by the structure of human nature, we unavoidably feel on the apprehension of barbarity or treachery.

'It appears evident that the ultimate ends of human actions can never, in any case, be accounted for by reason, but recommend themselves entirely to the sentiments and affections of mankind, without any dependence on the intellectual faculties. * * * Something must be desirable on its own account, and because of its immediate accord or agreement with human sentiment and affection. Now as virtue is an end, and is desirable on its own account, without fee or reward, merely for the immediate satisfaction which it conveys; it is requisite that there should be some sentiment which it touches; some internal taste or feeling, or whatever you please to call it, which distinguishes moral good and evil, and which embraces the one and rejects the other. Thus the distinct boundaries and offices of reason and of taste are easily ascertained. The former conveys the knowledge of truth and falsehood: the latter gives the sentiment of beauty and deformity, vice and virtue. The one discovers objects, as they really stand in nature, without addition or diminution: the other has a productive faculty, and gilding or staining all natural objects with the colors, borrowed from internal sentiment, raises in a manner, a new creation.'

It would be superfluous to quote more, though pages might be presented to the same purpose. This is one of the doctrines of Hume which he varies and repeats incessantly. It meets us every where in his Essays, particularly in one entitled *The Sceptic*, and in another on the *Standard of Taste*. The reason is obvious: it is a true sceptical doctrine; and scepticism was his intellectual centre of gravity, or the easy chair into which he naturally 'fell back' (to use his own expression) to enjoy philosophic tranquillity. Virtue and vice, like beauty and deformity, are wholly an affair of

'blind sentiment' or taste, and all the world knows that there is no disputing about taste; and that it would be as wise to rest any thing weighty or important upon it as to attempt to build a palace on a sand-bank or a temple on a wave! 'All sentiment is right (Essay 23. Of the Standard of Taste) because sentiment has a reference to nothing beyond itself, and is always real, wherever a man is conscious of it. * * * A thousand different sentiments excited by the same object are all right: because no sentiment represents what is really in the object. It only marks a certain conformity or relation between the object and the organs or faculties of the mind; and, if that conformity did not really exist, the sentiment could never possibly have being. Beauty is no quality in things themselves: it exists merely in the mind which contemplates them; and each mind perceives a different beauty. One person may even perceive deformity where another is sensible of beauty; and every individual ought to acquiesce in his own sentiment, without pretending to regulate those of others. To seek the real beauty, or real deformity, is as fruitless an enquiry as to pretend to ascertain the real sweet or real bitter. According to the disposition of the organs, the same object may be both sweet and bitter; and the proverb has justly determined it to be fruitless to dispute concerning tastes. It is very natural, and even quite necessary, to extend this axiom to mental as well as bodily taste; and thus common sense, which is so often at variance with philosophy, especially with the sceptical kind, is found, in one instance at least, to agree in pronouncing the same decision.'

This is no doubt a true account of 'blind sentiment' or mere mental taste as understood by Mr. Hume; and he has been so explicit as to make us fully comprehend his intention in committing all moral distinctions to its 'sure and unerring testimony' and arbitrement. Nor is there a particle of essential difference between his doctrine concerning the origin and standard of morality and that of Shaftesbury, Hutcheson, Smith, and Brown. Indeed the last mentioned, says after Hume almost word for word and to the fullest extent of admission. Mr. Stewart, we have seen, classes Hume with Hutcheson and Smith, and the other natural-sentiment moral philosophers in contradistinction to Cudworth and Clarke. He was too prudent himself, however, to pronounce in an unqualified manner for either statement, and therefore attempted a sort of compromise between the two.

It seems sufficiently evident from Mr. Hume's own statement that to make 'blind sentiment' the foundation of moral decisions is in effect to do away with morality altogether. In short there is according to this scheme neither virtue nor vice absolutely, any more than beauty and deformity. 'Sentiment has reference to nothing beyond itself: a thousand different sentiments excited by the same object are all right.' This requires neither comment nor argumentation; and we ought to be as ready as Dr. Reid and 'his illustrious pupil' to eulogise Mr. Hume and acknowledge our great obligations to him; for certainly 'his conclusions do more than compensate his premises.' But for his manner of stating the doctrine of moral senti-

ment, as inherent in our mental constitution, we might perhaps have been bewildered by verbal ambiguities. And we confess that though the moral-sense or moral-instinct, or moral-sentiment theory of virtue has long appeared a very questionable sort of entity, we never understood it half so well as since we examined it closely in the statements of Mr. Hume.

Considered either ethically or theologically the natural-sentiment theory has nothing to recommend it. Considered philosophically (we mean as if it had nothing to do with religion and morality) it possesses no claim to assent. In truth it appears so unphilosophical that we cannot help wondering it should ever have received the sanction of any analytic reasoners who did not delight like Hume in scepticism and sophistry. Though directly opposed to his theory of utility it was perfectly worthy of his intellectual character. *Omnis Aristippum decuit color.* That such reasoners as Shaftesbury and Hutcheson should sincerely embrace the notion of innate moral instinct, sense, or sentiment as the only firm foundation of religion and virtue is perfectly intelligible; but how Smith and Brown could satisfy themselves, or attempt to satisfy others with it, is not so obvious. The supposition of a strong anti-revelation bias may perhaps account for the phenomenon. Indeed we know not what mere theistical moral philosophers could do materially different from what the natural-sentiment theorists have attempted, after the manifest failures of Cudworth, Clarke, and Wollaston. And none but the lower class of metaphysicians would attempt such a clumsy kind of compromise or accommodation as that of uniting the two notions of sentiment and reason into one complex theory.

Concerning the question now under consideration we would recommend a careful examination of the doctrines of Hartley; which may be easily dissociated from his vibratory theory; and, when separated from the nonsense about vibrations and vibratuncles, they will be found to convey no small portion of instruction. In resolving all the mental and moral phenomena into association he reasons much more philosophically than any of those who would stop short at 'blind sentiment' as Hume terms it; and his statements will bear an advantageous comparison or rather contrast with theirs. The following is a specimen:—

'The moral sense or judgment is sometimes considered as an instinct, sometimes as determinations of the mind, grounded on the eternal reasons and relations of things. Those who maintain either of these opinions may, perhaps, explain them so as to be consistent with the foregoing analysis of the moral sense from association. But if by instinct be meant a disposition communicated to the mind so as to be quite independent of association; and by a moral instinct, such a disposition producing in us moral judgments concerning affections and actions; it will be necessary to produce instances where such judgments arise in us independently of prior associations determining thereto.

'In like manner, if by founding the morality of actions, and our judgment concerning this morality, on the eternal reasons and relations of things, be meant, that the reasons drawn from the

relation of things, by which the morality or immorality of certain actions is commonly proved, and which with the relations are called eternal from their appearing the same, or nearly the same, to the mind at all times, would determine the mind to form the corresponding moral judgment independently of prior associations, this ought also to be proved by the allegation of proper instances. To me it appears, that the instances are, as far as we can judge of them, of an opposite nature, and favor the deduction of all our moral judgments, approbations, and disapprobations, from association alone. However some associations are formed so early, repeated so often, rivetted so strong, and have so close a connexion with the common nature of man and the events of life which happen to all, as, in a popular way of speaking, to claim the appellation of original and natural dispositions; and to appear like instincts when compared with dispositions evidently factitious; also like axioms, and intuitive propositions, eternally true according to the usual phrase, when compared with moral reasonings of a compound kind.'

The following is a statement of the question by Paley which that charming simplicity and perspicuity which characterise all his writings.

'They who contend (Moral Philosophy, book 1, chap. 5, The Moral Sense) for a moral sense, say that we approve examples of generosity, gratitude, fidelity, &c., and condemn the contrary instantly without deliberation, without having any interest of our own concerned in them, oft-times without being conscious of, or able to give any reason for our approbation; that this approbation is uniform and universal, the same sorts of conduct being approved or disapproved in all ages and countries of the world; circumstances, say they, which strongly indicate the operation of an instinct or moral sense.

'On the other hand, answers have been given to most of these arguments by the patrons of the opposite system.

'First, as to the uniformity above alleged, they controvert the fact. They remark from authentic accounts of historians and travellers that there is scarcely a single vice which, in some age or country of the world, has not been countenanced by public opinion: that in one country it is esteemed an office of piety in children to sustain their aged parents; in another to despatch them out of the way; that suicide, in one age of the world, has been heroism, in another felony: that theft, which has been punished by most laws, by the laws of Sparta was not unfrequently rewarded; that the promiscuous commerce of the sexes, although condemned by the regulations and censures of all civilised nations, is practised by the savages of the tropical regions without reserve, compunction, or disgrace; that crimes, of which it is no longer permitted us even to speak, have had their advocates among the sages of very renowned times; that if an inhabitant of the polished nations of Europe be delighted with the appearance, wherever he meets with it, of happiness, tranquillity and comfort; a wild American is no less diverted with the writhings and contortions of a victim at the stake; that even amongst ourselves, and in the present improved state of

moral knowledge, we are far from a perfect consent in our opinions or feelings: that you shall hear duelling alternately reprobated and applauded according to the sex, age, or station of the person you converse with: that the forgiveness of injuries and insults is accounted by one sort of people magnanimity, by another meanness: all which, they observe, looks very little like the steady hand, and indelible characters of nature.'

The natural-sentiment tendency, instinct, or innate principle, moral philosophers, make poor work of all this when they attempt to reconcile it with their theory. Whoever prefers assumption and paralogism to sound reasoning, and rhetorical declamation to sober argument, will find abundance of them in Brown's ethical lectures, though all he contends for is so little worth any contention, either logical or rhetorical, that he might have been as cold and indifferent about the matter, as his philosophic relative Mr. Hume. According to the statements of both, and those of Adam Smith too, we may truly say of vice, what Fontenelle so madly said of female in chastity: if we know it, if we perceive it, it is no great matter; if we do not perceive it, or feel a sentiment of disapprobation, it is nothing. The concluding paragraphs of Paley concerning the moral sense have a depth of import in them which the lovers of powerful language rather than of forcible signification are in danger of missing.

'Upon the whole, it seems to me, either that there exist no such instincts as compose what is called the moral sense, or that they are not now to be distinguished from prejudices (acquired sentiments) and habits; on which account they cannot be depended upon in moral reasoning: I mean, that it is not a safe way of arguing, to assume certain principles as so many dictates, impulses, and instincts of nature, and then to draw conclusions from these principles, as to the rectitude or wrongness of actions independent of the tendency of such actions, or of any other consideration whatever. * * * For which reason I suspect that a system of morality, built upon instincts, will only find out reasons and excuses for opinions and practices already established, and will seldom correct or reform either.

'But further, suppose we admit the existence of these instincts, what it may be asked is their authority? No man, you say, can act in deliberate opposition to them without a secret remorse of conscience. But this remorse may be borne with: and if the sinner choose to bear with it for the sake of the pleasure or profit which he expects from his wickedness; or finds the pleasure of the sin to exceed the remorse of conscience, of which he alone is the judge, and concerning which, when he feels them both together, he can hardly be mistaken, the moral-instinct man, so far as I can understand, has nothing more to offer. For if he allege that these instincts are so many indications of the will of God, and consequently presages of what we are to look for hereafter; this I answer is to resort to a rule and motive ulterior to the instincts themselves, and at which rule and motive we shall by and by arrive by a surer road: I say surer, so long as there remains a controversy whe-

ther there be any instinctive maxims at all ; or any difficulty in ascertaining what maxims are instinctive.'

We thought it right to give the natural-sentiment theory of morals a further hearing when obtruded upon us by Mr. Hume ; but we must now return to the position taken up by him though he was pleased to abandon it, and conclude his famous essay, ' incomparably the best he ever wrote,' according to his own account, by resolving the whole of virtue and vice into sentiment or taste and not into utility. It is obvious at first view that the theory of utility and that of blind sentiment are neither identical nor compatible with one another. What Mr. Hume therefore advances for the one, if the other be admitted, is to be regarded as so much mere philosophic flourish ; or rather what he advances concerning first the one and then the other is to be considered as so much moot argumentation, as a display of logical subtlety and dexterity. So far, therefore, as Hume, and such as resemble him, are concerned, this theory of utility is as little worthy of serious refutation as that by which he himself supplanted it. But there are moral reasoners of a better description who make much mention of the principle which he only brought forward, to have the pleasure of deserting it. However fickle and inconstant he might be in his speculations, and theoretic attachments, they are sincere and true lovers of utility ; and, whatever common relation as philosophers Mr. Hume and Mr. Bentham may have to Epicurus, our moral sentiment is not so blind as not to discriminate between them and prefer the one to the other. We may regret the absence of what we deem essentially necessary in moral reasonings ; but we admire sincere logic and ardent philanthropy as much as we despise a vain and heartless sophistry.

The theory of utility is very good in certain respects, and to a certain extent. Indeed there is a show of evidence about it which we look for in vain in the natural-sentiment hypothesis ; and the only wonder is (if indeed we can wonder at any thing of the kind) that Mr. Hume did not resolve all moral sentiment into utility and there leave the matter ; for that the former should be generated by the latter is perfectly intelligible. Nor is any other account of what he and Smith and Brown mean by moral sentiment either intelligible or plausible. It must be either instinctive or acquired. That it is not instinctive there is every kind and form and degree of evidence that the case admits of. It must, therefore, be acquired, for there is no other conceivable way in which it can exist at all. Nor have the whole race of moral-instinct or natural-sentiment moral philosophers ever yet advanced any thing in support of their theory but gratuitous assumption and resolute assertion.

As fully accounting for all that they really mean by sentiment, as the origin and standard of moral distinctions, we consider the reasonings of Mr. Hume concerning utility not only perfectly satisfactory but absolutely unanswerable. Nor is this sentiment though acquired (so far as it is worth any thing) less a law of God written on the heart than if it were innate. For if he has constituted

the world, that certain dispositions and actions are found by universal experience to be good and profitable to men, and their opposites to be bad or mischievous, the judgment or sentiment corresponding to them implanted in the mind is just as really derived from, and referrible to him as if it were instinctive, according to Hutcheson's notion, or as if it were brought with the soul out of a pre-existent state, according to the notion of Plato. On the supposition that the moral sense or sentiment is not innate but implanted ; not derived from within but from without ; not born with man but generated in him after his birth, all the fine things that have been said by Cicero and others will hold good, and he just as pregnant with meaning and importance, as on the other supposition of inherent moral tendency prior to association or the formation of mental character.

It cannot be denied (Paley's Moral Philosophy, book i. chap. 5,) that some sorts of actions command and receive the esteem of mankind more than others ; and that the approbation of them is general. This may be accounted for without the assistance of a moral sense. Having experienced a particular conduct to be beneficial to ourselves, or observed that it would be so, a sentiment of approbation rises up in our minds ; which sentiment afterwards accompanies the idea or mention of the same conduct, although the private advantage which first excited it no longer exists. And this continuance of the passion, after the reason of it has ceased, is nothing more than what happens in other cases. * * * By these means the custom of approving certain actions commenced : and, when once such a custom has got footing in the world, it is no difficult thing to explain how it is transmitted and continued ; for then the greatest part of those who approve of virtue, approve of it from authority, by imitation, and from a habit of approving such and such actions, inculcated in early youth, and receiving as men grow up the continual accessions of strength and vigor, from censure and encouragement, from the books they read, the conversations they hear, the current application of epithets, the general turn of language, and the various other causes by which it universally comes to pass, that a society of men, touched in the feeblest degree with the same passion, soon communicate to one another a great degree of it. This is the case with most of us at present ; and is the cause also that the process of association is little now either perceived or wanted.

Amongst the causes assigned for the continuance and diffusion of the same moral sentiments among mankind we have mentioned imitation. The efficacy of this principle is most observable in children : indeed, if there be any thing in them which deserves the name of an instinct, it is their propensity to imitation. Now there is nothing which children imitate or apply more readily than expressions of affection and aversion, approbation, hatred, resentment, and the like ; and when their passions and expressions are once connected, which they soon will be by the same association which unites words with their ideas, the passion will follow the expression, and attach upon the object to which the child has been accustomed to apply the epithet. In a word, when

almost every thing else is learned by imitation, can we wonder to find the same cause concerned in the generation of our moral sentiments?

This is the only account of the matter that appears to us satisfactory, or ever intelligible. Of course it resolves the moral sentiment of Shaftesbury and his followers into utility, taken according to Hume's theory. As amounting therefore to all the ethical certainty and import really contended for by them, that theory is, we conceive, as firm and impregnable as any thing of the kind can possibly be. It is an easy task to call it the selfish system of morals, and declaim against it with much rhetorical effect; but how is it to be overturned? Not surely by mere assumption and assertion, however much varied, and combined, and reiterated. Not by taking it for granted that the moral sentiment is an original instinct or determination of the mental constitution for which no reason can be assigned, and that it is so because it is so? Taking it then for what it is really worth as a philosophic exposition of the kind of moral sentiment which has universally prevailed, without any reference to divine communication or influence, we consider the theory of utility as the only one propounded that possesses any evidence of truth.

Before we examine this theory more closely, it is proper to remark that, in human legislation, utility must be considered as the guiding principle. Mr. Bentham and his disciples do well to shape their courses on the ocean of jurisprudence by this polar star; and we hope they will make many valuable discoveries. We only wish that they had more hopeful materials than human beings and human societies for their jurisprudential wisdom to operate upon. If their utilitarianism were purely political, and if they would be perfectly neutrologistic as to religion and irreligion, we would hail them as sage and philanthropic jurisconsults. But neutrologism in such matters is hardly practicable, and we expect no good from principles and reasonings which have any affinity or alliance with atheism.

Having admitted the theory of utility propounded by Mr. Hume, as much more satisfactory than the natural-sentiment or moral-sense-theory it will be said this is making almost nothing of moral distinctions—it is placing them on a very uncertain foundation. Granted; but we do not mend the matter by adopting the other hypothesis; for what can be less certain than blind sentiment or mere taste? What can possibly amount to less ethical import or avail than the doctrines of Hutcheson, Smith, and Brown? But, though the theory of utility be admitted as accounting for the moral sentiment which has generally existed among mankind, it does not account for all the moral principle that has existed; and still less can it be considered as the only possible origin and standard of morals. Much of what Mr. Hume would resolve into utility or into sentiment is referrible to a much higher origin, though he chose to keep it out of view; but that which he and most of the other moral philosophers, would seem to discard, as of little or no account, is the only sure foundation on which any ethical struc-

ture of much importance can rest. In this connexion his own remarks on the difference between Homer and Fenelon as to moral sentiment may be fitly introduced.

‘In all questions (Essay xxiii. Of the Standard of Taste) which regard conduct and manners, the difference among men is greater than at first sight it appears. It is indeed obvious, that writers of all nations and all ages concur in applauding justice, humanity, magnanimity, prudence, veracity; and in blaming the opposite qualities. Even poets and other authors, whose compositions are chiefly calculated to please the imagination, are yet found, from Homer down to Fenelon, to inculcate the same moral precepts, and to bestow their applause and blame on the same virtues and vices * * * but it is obvious that when Homer draws particular pictures of manners, and represents heroism in Achilles, and prudence in Ulysses, he intermixes a much greater degree of ferocity in the former, and of cunning and fraud in the latter, than Fenelon would admit of. The sage Ulysses in the Greek poet seems to delight in lies and fictions, and often employs them without any necessity or advantage: but his more scrupulous son, in the French epic writer, exposes himself to the most imminent perils, rather than depart from the most exact line of truth and veracity.’

A very just discrimination between Homer and Fenelon as to their moral sentiment or notions of virtue and vice; but whence the difference? Why was the son of Ulysses in the French epic writer more scrupulous about truth and falsehood than his lying father, as drawn by Homer? Was it not that which made the amiable Joseph so scrupulously virtuous when he exclaimed with all the force of conscientious purpose and pious emotion, ‘How can I do this great wickedness, and sin against God?’

The plain case is, that a moral system of sentiment derived from utility; that is, growing up out of the praise and blame which men by general consent award to virtue and vice on account of the beneficial operation of the one, and mischievous operation of the other, though better than no moral system, and absolutely necessary to social existence, and though sufficient to account for much of what passes as virtue in the world, yet is of a very defective and inefficient nature, when considered in reference to what is wanted, and what true religion produces. But what would be the consequence if all men, or even the majority of them, were to theorise concerning ethics in the manner of Hume by ascribing all moral distinctions and obligations to utility, or what is if possible yet worse, by resolving them into sentiment or taste? Would they not adopt the very maxims which he has deduced from his own doctrines? Such as the following:—‘That honesty is the best policy, though a good general rule is liable to many exceptions; and that he conducts himself with most wisdom who observes the general rule and takes advantage of all the exceptions.’ This doctrine is closely allied to that avowed by the Jesuits, and so long acted on by the fathers of the Propagandi. A more ruinous one to the happiness and moral character of man we can hardly conceive.

The only other system of moral philosophy which we will examine is that of Paley; and we approach it with mingled feelings of pleasure and regret; for in some respects it is admirable, in others, and these the most essential, it is any thing but what could be wished. The simplicity of Paley's statements and reasonings is almost inimitable. Nothing can be more unscholastic, plain, perspicuous, and perfectly free from pomp and pedantry. The nearest to Paley's style in this respect are the best parts of Locke's, Hartley's, and Franklin's writing; though we think he excels even Franklin in vernacular plainness and homely simplicity. Nothing from the pen of Paley seems to smell either of the lamp or the library; all is as fresh and sweet as if it had been composed on the bank of a clear stream, by the side of Isaac Walton. No man who owed so much to books ever had more of the happy art of losing sight of them when he set about making new ones. The manner is all his own; in this he is original, and his originality is not only beautiful, but often striking and truly graphic. The following will match in expression any of the sketches of Mandeville:—'If you shall see a flock of pigeons in a field of corn; and if (instead of each picking where and what it liked, taking just as much as it wanted, and no more) you should see ninety-nine of them gathering all they got into a heap; reserving nothing for themselves but the chaff and the refuse; keeping this heap for one, and that the weakest, perhaps worst, pigeon of the flock; sitting round, and looking on all the winter, whilst this one was devouring, throwing about, and wasting it; and if a pigeon more hardy or hungry than the rest, touched a grain of the hoard, all the others instantly flying upon it, and tearing it to pieces; if you should see this, you would see nothing more than what is every day practised and established among men. Among men you see the ninety and nine toiling and scraping together a heap of superfluities for one (and this one too, oftentimes the feeblest and worst of the whole set—a child, a woman, a madman, or a fool); getting nothing for themselves all the while, but a little of the coarsest of the provision, which their own industry produces; looking quietly on whilst they see the fruits of all their labor spent or spoiled: and, if one of the number take or touch a particle of the hoard, the others joining against him, and hanging him for the theft.' The first paragraph of book 3, chap. I. Of Property.*

* However beautiful the style of our author, in this case, it must still be conceded that the inference intended to be drawn from his elegant allegory is most fallacious. An unequal distribution of property has ever existed, even in patriarchal times, and the spur that it offers to mankind, by inducing them to aim at excelling each other, alone offers an advantage more than commensurate to all the inconvenience that appears to have resulted.

In addition to the charming simplicity, the practical character of Paley's writings deserves the highest praise. They are not only level to the humblest capacity, but directly applicable to real life, and available for useful purposes. The best chapter in the work, in our judgment, is the sixth of the first book, concerning Human Happiness; and, as it is the most excellent, it is the most original, and characteristic of the author. We would have persons of all ranks and conditions and ages read and inwardly digest it; and the young ought to get it by heart. We have already quoted part of it, and we transcribe one small specimen more, merely for the sake of its expressive representation of the author's mental character: He wrote directly from his own reflections and experience, and therefore, with all the unreserve and frankness imaginable, threw a piece of preferment into the enumeration.

'Engagement is every thing: the more significant, however, our engagements are, the better: such as the planning of laws, institutions, manufactures, charities, improvements, public works, and the endeavouring by our interest, address, solicitations, and activity, to carry them into effect; or, upon a smaller scale, the procuring of a maintenance and fortune for our families by a course of industry and application to our callings, which forms and gives motion to the common occupations of life; training up a child, prosecuting a scheme for his future establishment, making ourselves masters of a language or a science, improving or managing an estate, laboring after a piece of preferment, and lastly, any engagement which is innocent is better than none; as the writing of a book, the building of a house, the laying out of a garden, the digging of a fish pond; even the raising of a cucumber or tulip.'

The rich especially should study this chapter, and all who have not been already cured of the error of supposing that idleness is conducive to happiness, or even compatible with it. For how many in spite of experience, observation, and reflection, drag on a miserable existence under the malady which the French call ennui; and for which most of them have no better antidote than frivolity or amusement. We hope the reader will turn to the quotation already made from this inimitable chapter of Paley in connexion with the statement of the doctrines of Epicurus concerning happiness. The remark respecting religion is in particular most important.

For plainness and practicalness, then, the ethical work of Paley possesses the highest merit, and stands unrivalled. It is entitled to very high praise of another kind; for Paley is almost the only ethical writer of any eminence, in recent times, who has professed to connect morals with religion, and to give a system of moral philosophy on Christian principles. Whilst the lectures and treatises of the moral-instinct or natural-sentiment philosophers are almost as heathenish as if they had been composed at Pekin, or written by Epicurus or Chrysippus; the work of Paley is at least professedly Chris-

man, and makes several appeals to the sacred scriptures. His remarks in this connexion are so just as to merit transcription.

'As the will of God is our rule (book ii. chap. 4); to enquire what is duty, or what we are obliged to do, in any instance, is, in effect, to enquire what is the will of God, which consequently becomes the whole business of morality. * * * Mr. Hume, in his fourth Appendix to his Principles of Morals, has been pleased to complain of the modern scheme of uniting ethics with the Christian theology. They who find themselves disposed to join in this complaint, will do well to observe what Mr. Hume himself has been able to make of religion without this union. And, for that purpose, let them read the second part of the ninth section of the above essay, which part contains the practical application of the whole treatise—a treatise which Mr. Hume declares to be 'incomparably the best he ever wrote.' When they have read it over, let them consider whether any motives there proposed are likely to be found sufficient to withhold men from the gratification of lust, revenge, envy, ambition, avarice, or to prevent the existence of these passions, unless they rise up from this celebrated essay with stronger impressions upon their minds than it ever left upon mine, they will acknowledge the necessity of additional sanctions. But the necessity of these sanctions is not now the question. If they be in fact established; if the rewards and punishments held forth in the Gospel will actually come to pass, they must be considered. Such as reject the Christian religion are to make the best shift they can to build up a system, and lay the foundation of morality, without it. But it appears to me a great inconsistency in those who receive Christianity, and expect something to come of it, to endeavour to keep all such expectations out of sight in their reasonings concerning human duty.'

Doubtless there is a glaring inconsistency in such moral philosophers, and there is an equal inconsistency in universities professedly Christian having any but professedly Christian moral professors. The moral chair ought in consistency either to be filled with a Christian lecturer or abolished; and the last would perhaps be the best measure, and we feel quite sure it would occasion no serious loss. The moral-instinct or natural-sentiment theory of morals is admirably calculated to save appearances, and this we suspect is its main recommendation to its advocates; for, upon this hypothesis, a Hume, a Smith, or a Brown, is as eligible to the moral chair as Dr. Chalmers. The veriest sceptic or atheist may appear as orthodox and as zealous for virtue, and even natural religion, as any of them. It is worthy of remark, that Dr. Paley not only opposes the moral-sense notion, but as decidedly connects his moral philosophy with divine revelation, and professedly founds his system of ethics on the will of God.

We sincerely wish that we could extend our praise of his work farther; but here we are constrained to stop. Much as we approve and admire most of his writings, Paley was not well qualified for moral philosophy, either intellectually or ethically considered. He cannot be

considered as a profound metaphysician. He wanted depth and comprehension, and was very deficient in the necessary quality of analysis. He was both acute and discriminating in a certain way, and could select judiciously from the mass of materials created by his hand by more original and more powerful thinkers; but the secondary excellencies of intellect can never compensate for the absence of the primary ones in philosophical discussions. His biographer has told us that Paley was never a hard student, but the information might have been spared; it is sufficiently impressed on all the author's productions; and on none of them more than his Moral Philosophy. It every where convinces as fully as if Paley himself had told us that he was determined to be easy, and not worry his mind, or rack his brain about the matter. His conclusion of the chapter on the moral sense amused us, as remarkably coincident with the manner of Mr. Stewart, when retreating from before some metaphysical question of much difficulty. This celebrated question, therefore, becomes in our system a question of pure curiosity; and as such we dismiss it to the determination of those who are more inquisitive than we are concerned to be, about the natural history and constitution of the human species. This was his own; the arguments with which he so successfully combated the moral sense were all borrowed.

Owing to what has been just indicated, the defects of Paley's work are of a deep and radical nature; and yet probably if it had been freer from such defects, and more sound, self-consistent, and logically entire, it would have been less popular. The logical discrepancies we allude to would seem to be, to the multitude of readers, like disorders skilfully introduced to the lovers of music, or rather, perhaps, they are too deep to be perceived by such as are still more superficial than the author himself; and in the case before us this is not to be wondered at, when there is so much that is plausible, and when the manner of the whole is agreeable and charming. But the duty imposed upon us is the ungrateful one of dissection; and though we have admitted all the charms and beauties of Paley's moral philosophy, and that it abounds with excellent remarks, yet the radical errors are such as to vitiate the whole considered as a system; indeed, as will presently appear, it is not one system, but two or more, jumbled together. There is no unity of design or execution; no mutual affinity or coherency among the different parts; and, what is still worse, the principles intended to support and bind the whole are essentially faulty. Much of this is referrible to an intellectual origin, or metaphysical defect in the author; but we are sorry to say that much of the evil is ascribable to a deficiency of the moral and religious sense, if we may thus for once express it; so far from being prepared conscientiously to pronounce, with Dr. Carpenter, the Moral Philosophy of Paley a useful work, we are constrained to say that we think it of a very mischievous tendency, so far as it has any actual influence. Not that we are alarmists; for we know how very powerless moral systems are, and what very little influence they have upon human minds and

human conduct. But the tendency of the work in question is, in our humble opinion, manifestly bad. The doctrines of the author concerning the connexion of religion and virtue are as erroneous, we opine, as they can well be; and, concerning morality in general, as lax as almost any libertine could wish.

Take, for example, his chapter on Subscription to Articles of Religion, or that on lies, and we may as well begin at the end, or in the middle, as at the beginning. What can be more jesuitical or more latitudinarian than his statements? Proceeding on the principle of utility (like Hume, from whom indeed he borrowed it) as the basis or origin and standard of morals, he thus defines, and then argues:—‘A lie is a breach of promise; for whoever seriously addresses his discourse to another tacitly promises to speak the truth, because he knows the truth is expected.’ This was not of his own inventing, but it will match in sophistry any legal or casuistical fiction ever invented. Not feeling sure of his lame principle, he provides two crutches for it—‘Or,’ he adds, ‘the obligation to veracity may be made out from the direct ill consequences of lying to social happiness. Which consequences consist, either in some specific injury to particular individuals, or in the destruction of that confidence which is essential to the intercourse of human life; for which latter reason a lie may be pernicious in its general tendency, and therefore criminal, though it produces no particular or visible mischief to any one.’ Such are the definitions and positions, now for the deductions, or demonstrations, and corollaries—‘There are falsehoods which are not lies (this is surely too bad, or too barefaced); that is, which are not criminal; as,

1. ‘Where no one is deceived; which is the case where the declared design of the speaker is not to inform, but to divert; compliments in the subscription of a letter, a servant’s denying his master, a prisoner’s pleading not guilty, an advocate asserting the justice, or his belief of the justice, of his client’s cause. In such instances, no confidence is destroyed, because none was reposed; no promise to speak the truth is violated, because none was given or understood to be given.

2. ‘Where the person to whom you speak has no right to know the truth; or, more properly, where little or no inconveniency results from the want of such confidence in such cases; as where you tell a falsehood to a madman for his own advantage; to a robber to conceal your property; to an assassin to defeat or divert him from his purpose. The particular consequence is by the supposition beneficial; and, as to the general consequence, the worst that can happen is, that the madman, the robber, the assassin, will not trust you again, which is sufficiently compensated by the immediate benefit which you propose by the falsehood.

‘It is on this principle, that, by the laws of war, it is allowed to deceive an enemy by feints, false colors, spies, false intelligence, and the like.’

This is no doubt the genuine doctrine of Hume, and of his theory of utility, when followed up or carried out to its full extent. And it

is well to have it presented in all its aspects and bearings without disguise or concealment in the simple and graphic statements of Paley, as well as in the subtle but reckless reasonings of Hume. Such is the morality of Paley (who is reported to have said that he could not afford to keep a conscience), and such is the morality of the world; but is it like the morality of the Gospel? The question is a kind of indignity offered to the purity of that moral excellence which is from above. Epicurus could teach as good morality as this moral philosopher, though professedly Christian. Jeremy Bentham, staunch utilitarian as he is, would reprobate at least some parts of this doctrine; and he has borne his enlightened and honest testimony against the legal wickedness, or pernicious perversity, of compelling a criminal, conscious of guilt, to add to all his other guilt that of denying it in the face of his judge and jury, and the whole court, and pleading not guilty. There have been some painful cases lately of burdened and scrupulous consciences in culprits undergoing much varied treatment from the court to bring them to conformity with a perverse rule to take their trial; and it is to be hoped that what is more honored in the breach than in the observance will be abolished at no great distance of time. It gave us unfeigned pleasure to hear one of the first ministers of the crown declare in full parliament, respecting one of those abuses of words, commonly called ‘law-technicalities and legal fictions,’ that he wished to set an example of respect for the import of terms to the inferior courts. It is desirable to have in some statesmen, more intellectual and moral rectitude than we find in such moral philosophers as Paley and his competitors; and most afflicting, to a mind of correct feeling, to witness a moral teacher delivering such doctrines, as if he were not only ignorant or indifferent respecting their bearings and tendencies, but as utterly unconscious as a Machiavel of their reproachful nature.

The system of Paley is so loose and discordant, the parts composing it are so miscellaneous and heterogeneous, there is so little of unity and identity about the whole, that there is some difficulty in attempting to analyse it, or in finding a proper beginning for the purpose. The most favorable opening seems to be presented at his statement concerning the will of God. ‘The will of God is our rule,’ he writes, ‘which consequently becomes the whole business of morality. Now there are two methods of coming at the will of God on any point:—

1. ‘By his express declarations, when they are to be had and which must be sought for in Scripture.

2. ‘By what we can discover of his designs and dispositions from his works; or, as we usually call it, the light of nature.’

This is not exactly the light in which the light of nature is usually presented. But the difference is too obvious to require indication; nor is it of much importance as to any theoretical or practical purpose. Paley’s light of nature is certainly a simpler, more intelligible, and more tangible sort of entity than what is usually called by the same name.

‘And here,’ continues our author, ‘we may observe the absurdity of separating natural and revealed religion from each other. The object of both is the same, to discover the will of God; and, provided we do but discover it, it matters nothing by what means.’ What a convenient and pleasant kind of logic this is! How enviable the mental conformation that can use it with perfect satisfaction! It makes the most difficult matters smooth and easy without any trouble. But we know not what the author means exactly by the terms he employs, or how they can stand consistently with any distinct meaning in the connexions or relations in which he has placed them. The will of God, we had supposed to be rather the origin and standard, or the foundation of religion than its object. How religion can exist apart from the will of God, as the eye apart from the object at which it looks, or is employed to discover, we cannot imagine. However this also is of no great importance; we can at least form a rough guess what the archdeacon meant to express if he had been endowed with a little more of metaphysical acumen and logical accuracy. Whether right or wrong, we have his meaning more explicitly in the following paragraph:—

‘The method of coming at the will of God, concerning any action, by the light of nature, is to enquire into the tendency of the action to promote or diminish the general happiness. This rule proceeds upon the presumption that God Almighty wills and wishes the happiness of his creatures; and, consequently, that those actions which promote that will and wish must be agreeable to him; and the contrary.

‘As this presumption is the foundation of our whole system, it becomes necessary to explain the reasons upon which it rests.’

Then follow a few loose remarks headed Chapter 5, The Divine Benevolence; such as the following:—‘The contemplation of universal nature rather bewilders the mind than affects it. There is always a bright spot in the prospect, upon which the eye rests; a single example perhaps by which each man finds himself more convinced than by all others put together.’ The instance that pleased the author best, and seemed most effectually to establish the presumption which he made the foundation of his whole system, was a child at its sport. ‘But the example,’ he adds, ‘which strikes each man most strongly is the true example for him: and hardly two minds hit upon the same; which shows the abundance of such examples about us.’ We really know not which of all Paley’s kinds of simplicity we ought most to admire. The conclusion of the whole ceremony of proving the presumption, and laying the foundation, is as follows:—‘We conclude, therefore, that God wills and wishes the happiness of his creatures. And, this conclusion being once established, we are at liberty to go on with the rule built upon it.’ It is not usual to build rules on foundations,—but this is nothing. Next follows, as in reason ought, Chapter 6, Utility; which dashes boldly off with the doctrine of Hume and Epicurus.

‘So then actions are to be estimated by their tendency. Whatever is expedient is right. It

is the utility of any moral rule alone which constitutes the obligation of it.’

This is as dexterous a method of cheating atheism out of the moral doctrine of utility to give it to natural religion as can well be imagined. What is essentially bad, however, is not so very transmutable as to be converted into much good by mere slight of hand operations; and we refer the reader to the author’s chapter on lies, for proof, what a rogue in grain the doctrine of utility is, whether found under the patronage of Hume, or in the service of archdeacon Paley. It is not necessary to say more. The statements and distinctions of Paley, for the purpose of giving it a written character, are just sufficiently plausible to impose upon such as are incapable of analysis, or who will not be at the trouble to search below the surface. If mere phraseology, or verbal but unreal distinctions, could reconcile contrarieties into perfect affinity and immutable union, or change the very essence of things so as to make evil good, then might such attempts as the following, to justify the doctrine of utility, amount to something more than the mere saving of appearances.

‘Actions in the abstract are right or wrong, according to their tendency; the agent is virtuous or vicious, according to his design. * * * It is evident that our concern is with actions in the abstract.’ ‘There are occasions in which the hand of the assassin would be very useful. The present possessor of some great estate employs his influence and fortune to annoy, corrupt, or oppress all about him. His estate would devolve by his death to a successor of an opposite character. It is useful therefore to despatch such a one out of the way as soon as possible; as the neighbourhood will thereby exchange a pernicious tyrant for a wise and generous benefactor. It might be useful to rob a miser and give the money to the poor. It may be useful to get possession of a place, a piece of preferment, or of a seat in parliament, by bribery or false swearing. * * * Must we admit these actions to be right, which would be to justify assassination, plunder, and perjury; or must we give up our principle that the criterion of right is utility? It is not necessary to do either. The true answer is this; that these actions after all are not useful, and for that reason, and that alone, are not right. To see this point perfectly it must be observed that the bad consequences of actions are twofold, particular and general. The particular bad consequence of an action is the mischief which that single action directly and immediately occasions. The general bad consequence is the violation of some necessary or general rule.’

This sort of reasoning would no doubt convince and satisfy a great many; and Paley was sufficiently subtle to have made a good lawyer, and no bad casuist among the Jesuits. He has really done as much for utility to make it out to be a good, sure, and safe moral principle, as any advocate could well do for a bad client; and, if he had not committed himself so palpably in some parts of his special pleading, particularly in trying to make black lies appear white ones, we should have thought it necessary to strip off the mask of plausibility from his subtle distinctions.

about particular and general consequences, and abstract and concrete actions. To do this as fully and effectually as we could wish would require more space than can be now allotted to the purpose. We refer the reader to that part of Dr. Brown's ethical lectures which discusses the question of actions as absolutely and relatively considered, and whether they can be both right and wrong, according to a supposed difference which no where exists but in verbal ambiguities. On this question, which goes much deeper than Paley's sophistry, Dr. Brown will be found in full possession of that logical and analytic mastery which he always displays when combating false theories and reasonings.

It would be a comparatively easy task to show that the general superstructure of Paley's moral philosophy is as faulty as the presumption upon which the whole is constructed. But we must now hasten to a brief notice of the theological part or parcel (for we know not well what to call it) of his work. Here he is, if possible, still wider of the mark, and proves himself to be as defective a theologian as metaphysician. Indeed it is difficult to conceive how a clergyman, however destitute of an experimental acquaintance with divine truth, could be so theoretically ignorant of it as to write in the manner he has done. He adopts the strangely absurd (in every view) definition of virtue, given in Gay's Preliminary Dissertations. 'Virtue is the doing good to mankind, in obedience to the will of God, and for the sake of everlasting happiness.' This combines the two opposite faults of being at once deficient and redundant; and, what is still worse, it is as unsound and as directly opposed to the revealed will of God as can well be imagined. Not only is there nothing to warrant the principle of the definition in the sacred scriptures, but it is remarkably at variance with their general import; and directly contrary to the gospel or doctrines of Christ and his apostles. It is in fact the very principle which, above all others, they strenuously opposed, and which they insisted, upon the authority of God, must be renounced to receive eternal life, or everlasting happiness, as the gift of God through Jesus Christ.

Paley's principle of virtue is decidedly anti-scriptural, and it is as manifestly selfish. In this last view Dr. Brown combats it with great force of argument, though his arguments are in some respects vitiated by an error of another kind,—the assumption of the natural-sentiment principle of morality, or, in other words, that human nature is naturally virtuous, and that this natural and necessary tendency of the human mind is the only possible origin and standard of virtue. We give the following quotations from his lectures in opposition to the doctrine of Paley:—

'After these two lights in which the system (as presented by Mandeville and Hume) commonly distinguished by the name of the selfish system of morals, has been considered by us, there remains still one other light in which it is to be viewed, that in which the obligation of virtue is supposed to consist merely in an exclusive regard to our own individual eternity of

happiness in another life; and virtue itself to consist in obedience to the will of the Supreme Being; not on account of the moral excellence of that Supreme Being, or of his bounty to us, which might seem of itself to demand compliances that are the only possible expressions of the gratitude of dependent creatures to him from whom their power, as well as their happiness, is derived, but without any such views of reverence or gratitude, merely on account of the power which the ruler of the universe possesses, to give or withhold the happiness which is our only object. This form of the selfish system, which has been embraced by many theological writers of undoubted piety and purity, is notwithstanding, I cannot but think, as degrading as any other form of the doctrine of absolute selfishness; or rather it is in itself the most degrading of all the forms which the selfish system can assume; because, while the selfishness which it maintains is as absolute and unremitting as if the objects of personal gain were to be found in the wealth or honors, or sensual pleasures, of this earth: this very selfishness is rendered more offensive by the noble image of the Deity which is continually presented to our mind, and presented in all his benevolence, not to be loved, but to be courted with a mockery of affection.

'The doctrine of the absolute selfishness of our homage to God, and of our social virtues, considered as the mere conformity of our wills to the mere command of Him who is the dispenser of eternal happiness and eternal misery, for the sole reason of his power of thus dispensing happiness or misery, and not on account of his own transcendent excellence that of itself might seem to demand such a conformity, is a doctrine of very old date. But the writer who, in modern times, has led to the widest diffusion of this doctrine is archdeacon Paley, the most popular of all our ethical writers; and one of the most judicious in the mere details of ethics, however false and dangerous I consider his leading doctrines to be. Virtue he defines to be the doing good to mankind in obedience to the will of God and for the sake of everlasting happiness. The last part of the definition is the most important part of the whole; for the knowledge of this everlasting happiness he supposes to be all which constitutes moral obligation; meaning by obligation the influence of happiness as an object of physical desire, and of pain as an object of physical aversion; one or other of which is to follow our obedience or disobedience to the command of the power who is the supreme dispenser of both. The will of God is our rule, he says, but 'private happiness is our motive,' and therefore our obligation. * * * The doctrine of Paley differs, as you perceive, from the general selfish system only by the peculiar importance which it very justly gives to everlasting happiness and misery when compared with the brief pains or pleasures of this life. In the scale of selfish gain it is a greater quantity of physical enjoyment which it has in view. It is a sager selfishness, but it is not less absolute selfishness, which it maintains; and it is therefore subject to all the objections which I urged before at great length. An obvious answer presents itself to all

those selfish systems which convert the whole of virtue into prudence; and make the difference of virtue and vice in every respect precisely the same in kind as those of speculations in the market of commerce, who have employed their capital more or less advantageously in the different bargains that have been offered to them.'

In perfect consistency with the definition adopted by Paley we find him making such strange and anti-evangelical remarks as the following:—'The Christian religion hath not ascertained the precise quantity of virtue necessary to salvation.' 'That a state of happiness is not to be expected by those who are conscious of no moral or religious rule: I mean those who cannot with truth say that they have been prompted to one action, or withheld from one gratification, by any regard to virtue or religion either immediate or habitual.' But it would be superfluous to animadvert more particularly on this work; which, notwithstanding all the good remarks it contains, and the beautiful simplicity which pervades the whole, is as abortive a performance philosophically considered, as it is objectionable theologically and ethically.

Our strong objections to Dr. Paley's doctrine of general consequences are so happily and eloquently confirmed by Mr. Coleridge, in a number of his much neglected work *The Friend*, that the reader we are sure, and we trust the able author, will pardon an ample quotation from it.

'Much and often have I suffered from having ventured to avow my doubts concerning the truth of certain opinions, which had been sanctified in the minds of my hearers, by the authority of some reigning great name: even though, in addition to my own reasons, I had all the greatest names from the Reformation to the Revolution on my side. I could not, therefore, summon courage, without some previous pioneering, to declare publicly, that the principles of morality taught in the present work will be in direct opposition to the system of the late Dr. Paley. This confession I should have deferred to a future time, if my opinion on the grounds of international morality had not been contradictory to a fundamental point in Paley's System of moral and political Philosophy. I mean that chapter which treats of general consequences, as the chief and best criterion of the right or wrong of particular actions. Now this doctrine I conceive to be neither tenable in reason nor safe in practice: and the following are the grounds of my opinion.

'First: this criterion is purely ideal, and so far possesses no advantage over the former systems of morality: while it labors under defects, with which those are not justly chargeable. It is ideal; for it depends on, and must vary with, the notions of the individual, who, in order to determine the nature of an action, is to make the calculation of its general consequences. Here, as in all other calculations, the result depends on that faculty of the soul in the degrees of which men most vary from each other, and which is itself most affected by accidental advantages or disadvantages of education, natural talent, and acquired knowledge—the faculty, I mean, of foresight and systematic comprehen-

sion. But surely morality, which is of equal importance to all men, ought to be grounded, if possible, in that part of our nature which in all men may and ought to be the same: in the conscience and the common sense.

'Secondly: this criterion confounds morality with law; and when the author adds, that in all probability the divine justice will be regulated in the final judgment by a similar rule, he draws away the attention, from the will, that is, from the inward motives and impulses which constitute the essence of morality, to the outward act: and thus changes the virtue commanded by the gospel into the mere legality which was to be enlivened by it. One of the most persuasive, if not one of the strongest, arguments for a future state, rests on the belief, that although by the necessity of things our outward and temporal welfare must be regulated by our outward actions, which alone can be the objects and guides of human law, there must yet needs come a juster and more appropriate sentence hereafter, in which our intentions will be considered, and our happiness and misery made to accord with the grounds of our actions. Our fellow-creatures can only judge what we are by what we do; but in the eye of our Maker what we do is of no worth, except as it flows from what we are. Though the fig-tree should produce no visible fruit, yet if the living sap is in it, and if it has struggled to put forth buds and blossoms which have been prevented from maturing by inevitable contingencies of tempests or untimely frosts, the virtuous sap will be accounted as fruit: and the curse of barrenness will light on many a tree, from the boughs of which hundreds have been satisfied, because the omniscient Judge knows that the fruits were threaded to the boughs artificially by the outward working of base fear and selfish hopes, and were neither nourished by the love of God or of man, nor grew out of the graces engrafted on the stock by religion.

'I return to the question of general consequences, considered as the criterion of moral actions. The admirer of Paley's System is required to suspend for a short time the objection, which, I doubt not, he has already made, that general consequences are stated by Paley as the criterion of the action, not of the agent. I will endeavour to satisfy him on this point, when I have completed my present chain of argument. It has been shown that this criterion is no less ideal than that of any former system: that is, it is no less incapable of receiving any external experimental proof, compulsory on the understandings of all men, such as the criteria exhibited in chemistry. Yet, unlike the elder systems of morality, it remains in the world of the senses, without deriving any evidence therefrom. The agent's mind is compelled to go out of itself in order to bring back conjectures, the probability of which will vary with the shrewdness of the individual. But this criterion is not only ideal: it is likewise imaginary. If we believe in a scheme of Providence, all actions alike work for good. There is not the least ground for supposing that the crimes of Nero were less instrumental in bringing about our present advantages, than the virtues of the Antonines. Lastly: the

criterion is either nugatory or false. It is demonstrated, that the only real consequences cannot be meant. The individual is to imagine what the general consequences would be, all other things remaining the same, if all men were to act as he is about to act. I scarcely need remind the reader, what a source of self-delusion and sophistry is here opened to a mind in a state of temptation. Will it not say to itself, I know that all men will not act so: and the immediate good consequences, which I shall obtain, are real, while the bad consequences are imaginary and improbable? When the foundations of morality have once been laid in outward consequences, it will be in vain to recall to the mind, what the consequences would be, were all men to reason in the same way; for the very excuse of this mind to itself is, that neither its action nor its reasoning is likely to have any consequences at all, its immediate object excepted. But suppose the mind in its sanest state. How can it possibly form a notion of the nature of an action considered as indefinitely multiplied, unless it has previously a distinct notion of the nature of the single action itself, which is the multiplier? If I conceive a crown multiplied a hundred fold, the single crown enables me to understand what a hundred crowns are; but how can the notion hundred teach me what a crown is? For the crown substitute X. Y. or abracadabra, and my imagination may multiply it to infinity, yet remain as much at a loss as before. But if there be any means of ascertaining the action in and for itself, what further do we want? Would we give light to the sun, or look at our own fingers through a telescope? The nature of every action is determined by all its circumstances: alter the circumstances and a similar set of motions may be repeated, but they are no longer the same or similar action. What would a surgeon say, if he were advised not to cut off a limb, because, if all men were to do the same, the consequences would be dreadful? Would not his answer be—'Whoever does the same under the same circumstances, and with the same motives, will do right; but if the circumstances and motives are different, what have I to do with it?' I confess myself unable to divine any possible use, or even meaning, in this doctrine of general consequences, unless it be, that in all our actions we are bound to consider the effect of our example, and to guard as much as possible against the hazard of their being misunderstood. I will not slaughter a lamb, or drown a litter of kittens in the presence of my child of four years old, because the child cannot understand my action, but will understand that his father has inflicted pain, and taken away life from beings that had never offended him. All this is true, and no man in his senses ever thought otherwise. But methinks it is strange to state that as a criterion of morality, which is no more than an accessory aggravation of an action bad in its own nature, or a ground of caution as to the mode and time in which we are to do or suspend what is in itself good or innocent. The duty of setting a good example is no doubt a most important duty; but the example is good or bad, necessary or unsuccess-

sary, according as the action may be, which has a chance of being imitated.

'The question may be thus illustrated. At Florence there is an unfinished bust of Brutus, by Michael Angelo, under which a cardinal wrote the following distich:—

Dum Bruti effigiem sculptor de marmore finxit
In mentem sceleris venit, et abstinuit.

As the sculptor was forming the effigy of Brutus in marble, he recollected his act of guilt, and refrained.

'An English nobleman, indignant at this distich, wrote immediately under it the following:—

Brutum effinxisset sculptor, sed mente recursat
Multa viri virtus sistit et obstupuit.

The sculptor would have framed a Brutus, but the vast and manifold virtue of the man flashed upon his thought: he stopped and remained in astonished admiration.

'Now which is the nobler and more moral sentiment, the Italian cardinal's, or the English nobleman's? The cardinal would appeal to the doctrine of general consequences, and pronounce the death of Cæsar a murder, and Brutus an assassin. For (he would say) if one man may be allowed to kill another because he thinks him a tyrant, religious or political phrenzy may stamp the name of tyrant on the best of kings: regicide will be justified under the pretence of tyrannicide, and Brutus be quoted as authority for the Clements and Ravilliacs. From kings it may pass to generals and statesmen, and from these to any man whom an enemy or enthusiast may pronounce unfit to live. Thus we may have a cobbler of Messina in every city, and bravos in our streets as common as in those of Naples, with the name Brutus on their stiletos.

'The Englishman would commence his answer by commenting on the words 'because he thinks him a tyrant.' No! he would reply, not because the patriot thinks him a tyrant; but because he knows him to be so, and knows likewise that the vilest of his slaves cannot deny the fact, that he has by violence raised himself above the laws of his country—because he knows that all good and wise men equally with himself abhor the fact; If there be no such staté as that of being broad awake, or no means of distinguishing it when it exists; if because men sometimes dream that they are awake, it must follow that no man, when awake, can be sure that he is not dreaming; if because an hypochondriac is positive that his legs are cylinders of glass, all other men are to learn modesty, and cease to be so positive that their legs are legs; what possible advantage can your criterion of general consequences possess over any other rule of direction? If no man can be sure that what he thinks a robber with a pistol at his breast demanding his purse, may not be a good friend enquiring after his health; or that a tyrant (the son of a cobbler perhaps, who, at the head of a regiment of perjured traitors, has driven the representatives of his country out of the senate at the point of the bayonet, subverted the constitution which had trusted, enriched, and honored him, trampled on the laws which before God and man he had sworn to obey, and finally raised himself above all law) may not, in spite of his own and his

neighbours' knowledge of the contrary be a lawful king, who has received his power, however despotic it may be, from the kings his ancestors, who exercises no other power than what had been submitted to for centuries, and been acknowledged as the law of the country; on what ground can you possibly expect less fallibility, or a result more to be relied upon in the same man's calculation of your general consequences? Would he, at least, find any difficulty in converting your criterion into an authority for his act?

'I must now in a few words answer the objection to the former part of my argument (for to that part only the objection applies), namely, that the doctrine of general consequences was stated as the criterion of the action, not of the agent. I might answer, that the author himself had in some measure justified me in not noticing this distinction by holding forth the probability that the Supreme Judge will proceed by the same rule. The agent may then safely be included in the action, if both here and hereafter the action only and its general consequences will be attended to. But my main ground of justification is, that the distinction itself is merely logical, not real and vital. The character of the agent is determined by his view of the action: and that system of morality is alone true, and suited to human nature, which unites the intention and the motive, the warmth and the light, in one and the same act of mind. This alone is worthy to be called a moral principle. Such a principle may be extracted, though not without difficulty and danger, from the ore of the stoic philosophy; but it is to be found unalloyed and entire in the Christian system, and is there called faith.'

What is the inference to be drawn, then, from the extraordinary popularity of Paley's Moral Philosophy? Plainly this, that any sort of work bearing that title, agreeably and plausibly written, especially by an author of some note, will be generally received as very excellent. Moral philosophy is such an imposing, high sounding, sort of entity, but so indefinite withal,—such an obscure phantom, that it may be written about in almost any manner. It may be set up in direct opposition to the gospel on either deistical or atheistical principles; and an unholy alliance may be attempted between it and the gospel by compromising first principles; as if light could have fellowship with darkness,—as if genuine Christianity could be amalgamated with deism or atheism. We have looked at several treatises on moral philosophy of less note than Paley's; such as that of Belsham, of Estlin, and the professedly deistical production of Mr. Jevons, junior, with some others. It is some satisfaction to find these, if not innoxious, at least very important. Perhaps the least noxious and the most respectable (unquestionably so morally considered) production of the same school (which has been very prolific of ethical offspring) is the article Moral Philosophy in 'Systematic Educa-

tion,' written we believe by Dr. Carpenter. He discovers much correctness of judgment on many points, and much good moral feeling; and he remonstrates not only against some of the worst statements of Paley, but even against some of his brother Belsham's. 'The following statement,' he writes, 'in Mr. Belsham's Elements (p. 432) is very objectionable:—Hence it follows that there can be but one rule of right, namely, the tendency of an action or affection to the ultimate happiness of the agent, or what completely coincides with this, under the government of perfect wisdom and benevolence to the greatest general good? Certainly this is more objectionable than even Paley's manner of putting the doctrine of utility; and, though sufficiently reckless for Hume himself, it bears very little other resemblance to that subtle and sceptical reasoner,—is so very harmless as almost to merit a eulogy. We believe the work of this humble disciple of Dr. Priestley is now very quiet and inoffensive, and it is a sort of duty to tread lightly on the ashes of the dead. Indeed the offspring we have been noticing, though somewhat numerous, are not only of obscure parentage, but so short-lived that one epitaph will serve for all,

Born but to die.

Ethics and the evidences are the two great subjects to which a certain class of religious and moral reasoners run when they are in eager haste to come before the public with literary oblations. But it may be truly said to them, Who hath required this at your hands? Whether weighed in the balance of the sanctuary, or tried by the standard of utility, their professed services to religion and morality are woefully wanting.

We have now examined the various systems of moral philosophy of any note both ancient and modern with a view to their essential principles, and have found them not only generally at variance with one another, but so radically deficient in right principle, that it is somewhat difficult to say which of them is most objectionable. This circumstance will seem to some, perhaps, to be a foundation for absolute scepticism; but with all who cannot be satisfied with absolute scepticism (and whom can it satisfy or felicitate?) it ought to recommend that which alone is worthy of all acceptance—the moral philosophy of revelation—the theory of moral sentiment delivered by infinite wisdom. But it must be taken pure and entire as it came from the fountain of intelligence to make us wise unto eternal life, and partakers of such principles and influences as are the commencement of that moral rectitude, and purity, and felicity, which are to be consummated in the eternal world. If the gospel be rejected there is nothing for us of an ethical nature to look to but a vain and deceitful philosophy which is as devoid of any moral power as it is incapable of convincing sound reason

MORANT (Philip), F.S.A., a learned and indefatigable antiquary and biographer, born at St. Saviour's in the isle of Jersey, in 1700; educated at Abingdon school, and Pembroke College, Oxford, where he took the degree of B.A. in 1721, and that of M.A. in 1724. Between 1733 and 1745 he obtained six benefices in Essex; and in 1748 he published his History of Colchester, of which only 200 copies were printed. In 1751 he was elected F.S.A.; and in February 1768 he was appointed by the house of peers to prepare for the press a copy of the rolls of parliament; a service to which he diligently attended till his death, on November 25th, 1770. Besides the above work, and many useful translations, abridgments and compilations, &c., he wrote all the Lives in the Biographia Britannica marked C; also, the Life of Stillingfleet; the History of Essex, 1760, 1768, 2 vols. folio; the Life of King Edward the Confessor; and about 150 Sermons. He prepared the rolls of parliament as far as the 16th of Henry IV. The continuation of the task devolved upon Thomas Astle, esq., who had married his only daughter.

MORASS', *n. s.* Fr. *morais*; Swed. *morass*; Teut. *morast*. Fen; bog; marsh.

Landscapes point out the fairest and most fruitful spots, as well as the rocks, and wildernesses, and *morasses* of the country. *Watts on the Mind.*

Nor the deep *morass*

Refuse, but through the shaking wilderness
Pick your nice way. *Thomson's Autumn.*

MORATA (Olympia Fulvia), an Italian lady, born at Ferrara, in 1526, and distinguished for her learning. Her father, after teaching the belles lettres in several cities of Italy, was made preceptor to the two young princes of Ferrara, the sons of Alphonsus I. The abilities he discovered in his daughter determined him to give her a superior education. Meanwhile, the princess of Ferrara studying polite literature, it was judged expedient that she should have a companion in the same pursuit; and Morata was chosen as one of the most learned females of her age. Her father dying, she was obliged to return home to superintend the education of her brother and three sisters. Here she married Andrew Gruntler, a young German physician, and went with her husband to Germany; and, after staying a short time at Augsburg, went to Schweinfurt in Franconia, where her husband was born; but they had not been there long before that town was besieged and burnt; on which they fled in the utmost distress to Hammelburg. This place they were also obliged to quit, and were reduced to the last extremities, when the elector palatine invited Gruntler to be professor of physic at Heidelberg, and he entered on his new office in 1554. But they no sooner began to taste the sweets of repose, than a disease, occasioned by the distresses and hardships they had suffered, seized upon Morata, who died in 1555, in the twenty-ninth year of her age; and her husband did not long survive her. She composed several works, great part of which were burnt with the town of Schweinfurt; the remainder, which consists of orations, dialogues, letters, and translations, were collected and published

under the title of *Olympiæ Fulviæ Moratæ fœminæ doctissimæ, et planè divinæ, opera omnia quæ hactenus inveniri potuerunt; quibus Cœli Secundi Curionis epistolæ ac orationes accesserunt; which has gone through several editions in 8vo.*

MORÁTALLA, a large town of Murcia, Spain, on a river of the same name. It has a church and eight monasteries, two hospitals, and 6000 inhabitants. Fifty miles W.N.W. of Murcia.

MORAVA, or the March, a large river of Austria, having its source at the foot of the Schneeberge mountain, situated on the frontiers of Bohemia, Moravia, and the county of Glatz. Its course is from north to south, and, flowing through Moravia, it separates lower Austria from Hungary, and then falls into the Danube above Presburg. It is joined by the Theya, the Hanna, and the Becswa.

MORAVIA, a province of the Austrian empire, bounded by Hungary on the east, by Austria Proper on the south, and by Bohemia on the north and west. With Austrian Silesia, now annexed to it, it contains 10,700 square miles, and a population of 1,681,000; of these 184C square miles, and 347,000 inhabitants, belong to Silesia. Moravia Proper is divided into the circles of Brunn, Olmutz, Hradisch, Prerau, Znaym, and Iglau. The principal towns are,

	Inhabitants.
Brunn (the capital), with	26,000
Olmutz	11,000
Iglau	11,000
Troppau	10,000
Sternberg	8,000
Nikolsburg	7,600
Teschen	5,400
Znaym	5,200
Cremsier	3,200
Fulneck	3,10C
Prerau	2,900
Hradisch	1,700

Moravia is intersected by several mountain ranges, of which the highest are toward Bohemia. A branch of the Sudetic chain extends from the north-west of the province to the centre; a lofty branch of the Carpathian occupies the east and north-east; and another, but less lofty one, extends across the south. The cavern of Maczocha, of extraordinary depth, is considered a great natural curiosity. The most lofty ridges of Moravia are diversified with fertile valleys and extensive plains. The rivers include the March or Morava, which, after absorbing most of the other numerous streams, particularly the Theya or Taja, flowing from the west, holds a course nearly south, and falls into the Danube.

Though the soil is in general fertile, little corn is exported. Flax is cultivated in the circles of Brunn and Olmutz, and in quality is second only to that of Silesia. In certain situations the soil and climate are favorable to the grape; but the government interfered in 1803 to prohibit the further laying out of vineyards. According to M. Blumenbach, Moravia contained, in 1816, 50,856 joch of vineyard: the annual produce

was estimated at 458,542 eimers; but, by an average of twenty-seven years, it was found to be only 431,425; each joch yielding nearly eight eimers and a half. The forests are well attended to, and profitable in timber: the pasture grounds are extensive in the mountains; and a great proportion of the Austrian heavy horse is furnished from hence. Horned cattle are exported, but not largely: also hogs and geese. In 1739 the average yearly produce was reckoned to be 1,581,101 metzen of wheat, 4,741,605 metzen of rye, 2,104,152 metzen of barley, 9,291,146 metzen of oats; altogether 17,718,004 metzen, on 1,714,942 joch of arable land. After subtracting 571,647 joch for tallow, each of the remaining 1,143,295 joch yields an average of 15½ metzen.

Moravia, though inland, is subject to sensible variations in its temperature, the mountains and valleys having a considerable influence on the wind, which commonly blows from the north-west or south-east. The west, south-west, and south winds, are attended by rain, storms, or fog; the north-west winds are cloudy, and the south-east render the air serene.

The mines have been long famous; those of Iglau being discovered in the eighth century, and having been well managed in the thirteenth. The gold and silver mines were lost sight of during the fifteenth and sixteenth centuries; the most productive at present are those of iron and lead. The working of coal mines is as yet in its infancy. Here is a fossil incense, a species of amber; and a kind of clay very useful and superior for making tobacco pipes.

The inhabitants of Moravia, being a mixture of Germans, Slavonians, and Jews, participate in the manners and customs of all these stocks. Their greatest general resemblance is to the Bohemians. Near Olmutz, a small tract is occupied by a people of Slavonic origin, who are supposed by the native writers to be the unmixed descendants of the aborigines of the country. They are called Haunacks, probably from the river Hauna which flows here. They are low of stature, strong, and muscular; having preserved, in their manner of life, much primitive simplicity; and from their plain and temperate habits live to an advanced age. They are reproached by their neighbours with indolence, but they plead the fertility of their soil as a palliation of the charge, and look down on their accusers as an inferior race of beings. 'The young women,' says Dr. Neale, 'are remarkable for the grace and elegance of their forms, and the neat adjustment of their dresses, which are very picturesque, and show off, to great advantage, a considerable share of personal beauty with which their wearers are gifted. Their summer dress consists of a large white lincn cap, the lappets of which, bordered with lace, and embroidered with black silk, fall over their shoulders. Their long hair is suffered to float in tresses; or, when the cap is laid aside, is gracefully twisted and tied over the head with knots of ribands; their well-turned ankles are set off with white or red stockings, with black shoes and red heels. The dress of the men consists of a round hat, adorned with various colored ribands; a waistcoat, commonly green, em-

broidered with silk, surmounted by a broad leathern girdle, with brown pantaloons and boots, joined to the vest by means of large buckles. This is their summer costume; but in winter they cover their heads with a large and singularly-shaped fur cap, and throw over their shoulders an undressed sheep or wolf-skin, in the absence of which they wear a brown woollen cloak, with a large hood, like that of a Capuchin friar.'

The Moravian language is a dialect of the Slavonian, and seems to have been first reduced to writing by Cyrillus, the missionary, who, with Methodius, was sent hither by the emperor Michael, in the ninth century. They established the Greek ritual, and the service was performed in the native language to a late period, when the influence of Austria obtained the substitution of the Catholic forms. Although, in the fifteenth century, the Hussites in this province were so completely successful, and in the sixteenth the doctrines of the reformation spread with uncommon rapidity, the settled intolerance of the Austrian court compelled many families to return to the Catholic church, and great numbers emigrated. When Joseph II. proclaimed liberty of worship, the Protestants were found to consist of only 12,000 Calvinists, and 11,000 Lutherans.

Moravia has a nominal assembly of representatives, who meet once a year to determine the mode of levying taxes. The sessions are short, but a committee sits the whole year. A governor and court of appeal conduct the civil administration. There are seven gymnasia or classical schools in Moravia; one normal school for the formation of teachers, and a great number of elementary schools. A university was founded at Olmutz in 1567, which in 1782 was converted into a lyceum.

Moravia has of late made considerable progress in manufactures, and is on the whole one of the most flourishing portions of the Austrian empire. Woollens, linen, and cotton in particular, are made on a large scale; consuming not only all the wool and flax, but requiring a large importation of wool from Hungary, and flax from Sillesia and Poland. Near Iglau above 40,000 pieces are woven annually, and sent to Leipsic, Frankfort, and other parts of the empire. Woollens are manufactured on a large scale at Fulnek and Maehrisch Neustadt, and at Brunn and Peltsch. Dyeing is also carried on in great perfection at Brunn. The number of persons employed in Moravia in weaving woollens is estimated at 16,000; in spinning at 24,000, exclusive of family weaving for consumption. The chief manufacture of thread is near Rothwasser. The cotton works of Letowitz occupy 2000 individuals. The other manufactures are paper, leather, pot ash, and glass; and the whole give rise to a brisk export trade. The imports are chiefly flax, cotton, oil, and silk, as materials of manufacture; and cattle, wine, and hardware, for consumption. The goods are chiefly conveyed in waggons, along the two great commercial roads leading from Vienna, by Prague, Znaym, and Iglau, west; and by Brunn and Olmutz in the centre of the province. Much English machinery has been introduced here.

Moravia was anciently inhabited by the Quadi, who were driven out by the Slavi. Its kings, who were once powerful and independent, afterwards became dependent on, and tributary to, the German emperors and kings. At last, in 908, the Moravian kingdom was parcelled out among the Germans, Poles, and Hungarians. In 1086 that part of it properly called Moravia was declared a marquise by the German king Henry IV., and united with Bohemia. The margraves do not seem, however, to have reigned in tranquillity: several resigned their dignity in succession, and Moravia fell next into the hands of the Hungarians; but a long series of troubles, occasioned by the Hussite wars, and by other internal dissensions, obliged the Hungarian sovereigns to relinquish the acquisition. Moravia for a time resumed its independence; but, after various changes, became again subject to Bohemia; and in 1527, on Ferdinand I. succeeding to the crowns of Hungary and Bohemia, was added to the possessions of Austria, with whom it has ever since remained.

MORAVIANS, in ecclesiastical history. See UNITAS FRATRUM.

MORAWA, a large river of Servia, European Turkey, consisting of two great arms, the East and West, which, after flowing in different directions, unite near the small town of Rasna, and fall into the Danube, considerably to the east of Belgrade. It is joined by the Ibar, Mitrovitza, Nissa, and a number of others flowing from the mountains that traverse European Turkey from east to west.

MOR'BID, <i>adj.</i>	} Lat. <i>morbus, morbidus, morbosus</i> ; Fr. <i>morbifique</i> . Diseased; unhealthy: morbidity, and morbosity, mean the state of being out of health or diseased: morbid and moribund, causing disease - morbose, proceeding from disease.
MOR'BIDNESS, <i>n. s.</i>	
MORBIF'IC, <i>adj.</i>	
MORBIF'ICAL,	
MORBOSE,	
MORBOS'ITY, <i>n. s.</i>	

The inference is fair, from the organ to the action, that they have eyes, therefore some sight was designed, if we except the casual impediments or *morbosities* in individuals. *Browne.*

The air appearing so malicious in this *morbifick* conspiracy, exacts a more particular regard; wherefore initiate consumptives must change their air.

Harvey on Consumptions.

Malpighi, under galls, comprehends all preternatural and *morbose* tumours and excrescences of plants.

Ray on the Creation.

Though every human constitution is *morbid*, yet are there diseases consistent with the common functions of life.

Arbuthnot.

This disease is cured by the critical resolution, concoction, and evacuation of the *morbifick* matter.

Id.

MORBIHAN, a department in the north-west of France, bounded by the sea on the south, and by the Côtes du Nord on the north. Its superficial extent is 2800 square miles; its population 403,500. The surface is in great part an undulating sandy plain, containing much marshy land. It is watered by the Vilaine, the Blavet, the Claye, the Oust, and the Scorf. The soil is not of great fertility; the climate temperate, but the air, from the vicinity of the sea, generally humid and cloudy. The corn raised, however, is equal to

the consumption, and flax, hemp, and fruit, are cultivated: but the wealth of the country consists in its cattle. The fisheries are also extensive; and salt is made along the coast. The manufactures are linen and yarn: the exports, cattle in great numbers, some corn, butter, honey, wax, salt-fish, and linen. This department belongs to the diocese of Vannes, which is the capital; but L'Orient is the larger town.

MORBIHAN, a large salt-water bay or basin on the north-west coast of France, from which the department above mentioned takes its name.

MORBUS, CHOLERA. See MEDICINE.

MORBUS COMITIALIS, a name given to the epilepsy; because if on any day when the people were assembled in comitia upon public business, any person suddenly seized with this disorder should fall down, the assembly was dissolved, and the business of the comitia, however important, was suspended. See COMITIA.

MORDA'CIOUS, *adj.* } Lat. *mordax, mordacitas, mordeo*; Fr.

MOR'DICANT, *adj.* } *mordacitè, mordicant.*

MORDICA'TION, *n. s.* } Both the adjectives mean biting, or apt to bite; acrid: mordication the quality or aptitude of biting; mordacity, the act of biting or corroding.

It is to be inquired, whether there be any menstruum to dissolve any metal that is not fretting or corroding, and openeth the body by sympathy, and not by *mordacity*, or violent penetration.

Bacon.

Another cause is *mordication* of the orifices, especially of the mesentery veins; as any thing that is sharp and biting doth provoke the part to expel, and mustard provoketh sneezing.

Bacon.

He presumes, that the *mordicant* quality of bodies must proceed from a fiery ingredient; whereas the light and inflammable parts must be driven away by that time the fire has reduced the body to ashes.

Boyle.

MORDANT is a name given to various substances used in dyeing, to enable the coloring matter to adhere more fixedly to the material to be colored, and which it was formerly supposed to do, by eating its way into the texture of such material, whence it derives its name. A more accurate knowledge of chemistry, however, has now taught us that this effect is produced not by any corrosive property in the substance denominated a mordant, but in consequence of its equal attraction or affinity for the coloring material and the material to be colored, by which they are kept in a state of union. Other substances are also called mordants, which have merely the effect of increasing the intensity and brightness of the color. Of the first kind we have decided examples in alum and oxide of iron. In order to demonstrate the effect of affinity in the operations where alum is used, we may give a short description of the process of printing a piece of calico. Since the alumina or base of the alum has been discovered to be the essential ingredient, it has been also found that when the acetate of alumine is employed, the stuff takes the earth from that acid with greater facility than it does from the sulphuric acid, when alum (sulphate of alumina) is used. For this purpose the alum is mixed in certain pro-

portion with the acetate of lead. By this means the acetate of alumine is obtained in solution, while the sulphate of lead can be separated on account of its insolubility. The acetate of alumine is then mixed up to the right consistence, and applied to the stuff. After this, the whole of the piece is dipped into a madder bath. Those parts where the alumine has been applied assume a deep and lively color, while the ground is very faint, and of a dirty hue. If the stuff be now repeatedly boiled with bran, and exposed to the air and light, the ground becomes white, while the printed parts remain permanent. In this process it is clearly shown that the stuff in itself has not a sufficient attraction for the coloring matter to receive a permanent dye, without the presence of the alumina, which, by its common affinity to both, renders the color intense and permanent.

MORDAUNT (Charles), earl of Peterborough, a celebrated commander both by sea and land, was the son of John lord Mordaunt, viscount Avalon, and was born about 1658. In 1675 he succeeded his father in his honors and estate. While young he served under admirals Torrington and Narborough, in the Mediterranean, against the Algerines; and in 1680 embarked for Africa with the earl of Plymouth, and distinguished himself at Tangier when it was besieged by the Moors. In the reign of James II. he voted against the repeal of the test act; and, disliking the measures of the court, obtained leave to go to Holland to command a Dutch squadron in the West Indies. He afterwards accompanied the prince of Orange into England, and, upon his advancement to the throne, was made a privy-councillor, a lord of the bedchamber, first commissioner of the treasury, and earl of Monmouth. But in November, 1690, he was dismissed from the treasury. On the death of his uncle Henry earl of Peterborough, in 1697, he succeeded to that title; and, upon the accession of queen Anne, was appointed captain-general and governor of Jamaica. In 1705 he was again made a privy-councillor, general and commander in chief of the forces sent to Spain, and joint admiral of the fleet with Sir Cloudsley Shovel, of which, in 1706, he had the sole command. His taking Barcelona with a handful of men, and afterwards relieving it when greatly distressed by the enemy; his driving out of Spain the duke of Anjou and the French army, which consisted of 25,000 men, though his own troops never amounted to 10,000; his gaining possession of Catalonia, Valencia, Arragon, and Majorca, with part of Murcia and Castile, and thereby giving the earl of Galway an opportunity of advancing to Madrid without a blow, are astonishing instances of his bravery and conduct. For these important services his lordship was declared general in Spain by Charles III. afterwards the sixth emperor of Germany; and, on his return to England, he received the thanks of the house of lords. He was afterwards employed in several embassies to foreign courts, installed K. G., and made governor of Minorca. In the reign of George I. he was general of all the marine forces in Great Britain, in which post he was continued by king George II. He died on a passage to

Lisbon, in 1735. To the greatest personal courage and resolution, he added all the talents of a general, and a great knowledge of ancient and modern literature. He was very ready at repartee: and being once surrounded by a mob, who took him for the duke of Marlborough, then very unpopular; he said, 'I will convince you I am not the duke: in the first place, I have but five guineas in my pocket; and, secondly, here they are, much at your service;' he threw his purse among them, and got off with loud acclamations.

MORDECAI, Heb. מֹרְדֵכַי, i. e. bitter, the son of Jair, a celebrated Jew of the tribe of Benjamin, uncle and guardian of Esther, queen of Persia. His saving the life of king Ahasuerus, the enmity of Haman against him, the downfall and destruction of that proud minister, and the promotion of Mordecai to his office, with the other interesting circumstances which contributed to save the Jewish nation from extirpation, are recorded in the Book of Esther.

MORDELLA, in zoology, a genus of insects, of the coleoptera order. The antennæ are thread-shaped and serrated; the head is deflected under the neck; the pappi are clavated, compressed, and obliquely blunted; and the elytra are bent backwards near the apex. There are thirty-four species, mostly natives of Europe.

MORE, *adj. adv. & n. s.* Sax. *mape*; Goth. *meri*; Teut. *meter*; Swed. *mere*; a Lat. *major*. Minsheu. The comparative of some; great, or much; greater in quantity, size or number: as an adverb, to a greater degree: a particle expressing comparativeness; longer; a second time; again: as a substantive, a greater quantity: hence greater thing; longer time or second time.

He loved Rachel *more* than Leah.

Gen. xxix. 30.

MORE, Hannah, the youngest of five daughters of a clergyman at Wrington, near Bristol. All her leisure hours in childhood were devoted to reading. Her sisters having for some time conducted a small school, their reputation enabled them to venture on taking pupils of a higher class. They removed to Bristol, about 1765, and opened a boarding-school, which soon became one of the most celebrated in the west of England. Miss Hannah More removed with them, and she quickly acquired the friendship of the reverend doctor Stonehouse, a man of taste and knowledge. He encouraged her to write, and corrected all her early effusions. The Search after Happiness, a Pastoral Drama, was her first publication, and was so favourably received, that she was encouraged to print, in 1774, her Sir Eldred of the Bower, the Bleeding Rock, and a tragedy, called the Inflexible Captive, founded on the story of Regulus. Mr. Garrick advised her to write for the stage. Her Ode to Dragon, Mr. Garrick's house-dog, came from the press in 1777, as did also a volume of Essays on several Subjects, designed for Young Ladies. Next year, her tragedy of Percy came out; it was well received, and established her fame as a dramatic writer. In 1779, she produced Fatal Falsehood, a tragedy. Miss More's thoughts, however, soon took a more serious

turn; and in 1782, she published *Sacred Dramas*, with *Simplicity*, a poetical epistle. Some of these dramas had previously been acted by the pupils of Miss More's school. She afterwards took an opportunity, in an edition of her works, to declare that she did not think the stage in its present state becoming the countenance of a Christian, and she renounced all dramatic attempts, except as poems for the closet. She and her sisters retired, about twenty-five years ago, with an easy fortune, from Bristol to Mendip, in Somersetshire, where they effected a great improvement among the colliers, by establishing charity-schools. In 1785, she wrote a Biographical Preface to the Poems of Anne Yearsley, a milk-woman. In 1786, Florio, a tale, and the *Bas Bleu*, or Conversation, two poems. Thoughts on the Manners of the Great was published the same year anonymously. This was soon followed by *Estimate of the Religion of the Fashionable world*, which excited much attention; *Village Politics* (1793); *Remarks on the Speech of Monsieur Depont, on Religious Education* (1793); and *Strictures on the Modern System of Female Education* (2 vols., 8vo., 1799). When the education of the princess Charlotte became a subject of national importance, Mrs. More, it is said, was consulted by the first lady in the kingdom on the subject, in consequence of which she produced (in 2 vols., 12mo., 1808) *Hints towards forming the Character of a Young Princess*. This excellent woman was long confined to her bed by an excruciating disease, but still continued to write, and in that state produced some of her best performances, among which were *Cælebs in Search of a Wife*, which appeared in 1809, and was so much admired, that it ran through ten editions in one year; *Practical Piety* (2 vols., 1811); *Christian Morals* (2 vols., 1812); *Essay on the Character and Writings of St. Paul* (2 vols., 8vo., 1815); and *Moral Sketches of prevailing Opinions and Manners* (1819). Her miscellaneous works have been collected; and she has written many small pieces, which are not yet printed in her works. She died at her residence, Windsor-terrace, Clifton, on the 7th of September, 1833, leaving considerable property, above £10,000 of which she bequeathed to charitable and religious institutions. She was interred, amidst sincere demonstrations of sorrow, in the church of Wrington, near to the remains of Locke.

MORE (Alexander), a French protestant divine, born at Castros in 1616. His father was a Scotsman, and principal of the college of the Calvinists in that city. Alexander was sent to Geneva, where he was made professor of Greek and of Theology, and at the same time discharged the office of a pastor. But the irregularity of his conduct excited a great number of enemies against him, and Saumaise invited him to Holland, where he was first appointed professor of theology of Middleburg, and afterwards of history at Amsterdam. The duties of these stations he discharged with great ability; and in 1625 went to Italy, where he published his beautiful poem on the defeat of the Turkish fleet by the Venetians. This work procured him a gold chain from the republic. He afterwards

went to Charenton, where his sermons attracted a numerous audience, by the satirical allusions and witticisms with which they abounded. He died in Paris in 1670, aged fifty-four. He was never married. His works are, 1. *A Collection of Controversial Tracts*. 2. *Orations and Poems*, in Latin. 3. *An Answer to Milton*, entitled *Alexandri Mori fides publica*.

MORE (Henry), D. D. and F. R. S., an eminent English divine and philosopher in the seventeenth century, was educated at Eton school, and Christ's College, Cambridge, of which he became a fellow, and spent his life in a retired way, publishing a great number of theological works. He refused bishoprics both in Ireland and England. He was an open-hearted sincere Christian philosopher, who studied to establish men in the belief of providence against atheism. His writings have been published in Latin and English, folio.

MORE (John), D. D., bishop of Ely, an eminent English prelate, born in Leicestershire, and educated at Cambridge, where he took his degree in 1681. After various preferments he was made bishop of Norwich in 1691, and translated to Ely in 1707. He died in 1714. His sermons were published by Dr. Samuel Clarke, who was his chaplain. He collected a most magnificent library, which was purchased by king George II. for 6000 guineas, and presented to the university of Cambridge.

MORE (Sir Anthony), an eminent painter, born in Utrecht in 1512. He became the disciple of John Schooveil, but studied the manner of Holbein, to which he approached nearer than to that of the great masters at Rome. Like Holbein he was a close imitator of nature, but did not arrive at his extreme delicacy of finishing; on the contrary he sometimes struck into a bold and masculine style. He had a good knowledge of the *chiaro scuro*. In 1522 he drew Philip II.; and was recommended by cardinal Granvelle to Charles V. who sent him to Portugal, where he painted king John III., Catherine his queen, and the infanta Mary, first wife of Philip II. For these three pictures he received 600 ducats, besides a gold chain of 1000 florins value, and other presents. He had 100 ducats for his common portraits. He afterwards came to England to paint the portrait of queen Mary, then engaged to the same Philip, and for that picture received £100, a gold chain, and was made painter to their majesties, with a pension of £100 per quarter. He remained in England during Mary's reign, and was very much employed, so that most of the noble mansions in the country are adorned with some of his pictures. On the death of that queen, More returned with Philip to Spain, highly favored by the king, whose familiarity with him placed his life in danger; for More ventured to return a slap on the shoulder, which Philip in a playful moment gave him, by rubbing some carmine on his majesty's hand. This behaviour was accepted by the monarch as a jest, but it was hinted to More that the holy tribunal might regard it as a sacrilege, and he fled, to save himself, into Flanders, where he was employed by the duke of Alva. At Utrecht he was employed by the duke to draw several of

his mistresses, and was made receiver of the revenues of West Flanders; a preferment with which he was so much elated, that he burned his easel and gave away his painting tools. He was a man of a stately handsome figure, and went to Brussels, where he lived magnificently; but died at Antwerp in 1568. His portrait, painted by himself, is in the chamber of painters at Florence.

MORE (Sir Thomas), lord high chancellor of England, son of Sir John More, one of the judges of the King's Bench, was born in 1480 at London; where he received the rudiments of his education. He was afterwards introduced into the family of cardinal Moreton, who, in 1497, sent him to Canterbury College, Oxford, where he attended the lectures of Linacre and Grocinius, on Greek and Latin. In 1499 he came to New Inn, London, to study the law; whence he removed to Lincoln's Inn, of which his father was a member. He was now about twenty years old, and, notwithstanding his application to the law, was so bigoted to monkish discipline, that he wore a hair-shirt next his skin, and often fasted and slept on a bare plank. In 1503, being then a burgess in parliament, he distinguished himself in the house, in opposition to the motion for granting a subsidy and three-fifteenths for the marriage of Henry VII.'s eldest daughter Margaret to king James V. of Scotland. The motion was rejected; and the king was so highly offended at this opposition from a beardless boy, that he revenged himself on his father, by sending him to the Tower, and obliging him to pay £100 for his liberty. Unwilling to involve his father or friend again in the king's displeasure, he retired from public notice, and passed several years in privacy. Being now called to the bar, he was appointed law-reader at Furnival's Inn, which he held about three years. About this time he also read a public lecture in St. Lawrence's church, Old Jewry, upon St. Austin's treatise, *De Civitate Dei*, with great applause. He had intended to become a Franciscan friar, but was dissuaded from it; and, by the advice of Dr. Colet, married the eldest daughter of John Colt, esq., of Newhall in Essex. It has been said, that in visiting this gentleman he was attracted by the charms of the second daughter; but that, unwilling to mortify the eldest, he paid his addresses to her. In 1508 he was appointed judge of the sheriff's court in London, was made a justice of the peace, and became very eminent at the bar. In 1516 he went to Flanders with bishop Tonstal and Dr. Knight, who were sent by Henry VIII. to renew the alliance with the archduke of Austria afterwards Charles V. On his return, Cardinal Wolsey would have engaged him in the service of the crown, and offered him a pension which he refused. But he soon after accepted the place of master of the requests, was created a knight, and a privy counsellor, and in 1520 made treasurer of the exchequer. About this time he built a house at Chelsea, and married a second wife, whose name was Middleton, a widow, old, ill-tempered, and covetous; yet Erasmus says he was as fond of her as if she had been a young maid. In 1523 he was made

speaker of the house of commons; in which capacity he had the courage to oppose the then powerful minister, Wolsey, in his demand of an oppressive subsidy; yet he was, soon after, made chancellor of Lancaster, and was treated by the king with singular familiarity. The king, having once dined with Sir Thomas at Chelsea, walked with him near an hour in the garden, with his arm round his neck. After he was gone, Mr. Roper, Sir Thomas's son-in-law, observed how happy he was to be so familiarly treated by the king; to which Sir Thomas replied, 'I thank our lord, son Roper, I find his grace my very good lord indeed, and believe he doth as singularly favor me as any subject within this realm; howbeit, I must tell thee I have no cause to be proud thereof, for, if my head would win him a castle in France, it would not fail to go off.' In 1526 he was sent with Cardinal Wolsey and others, on a joint embassy to France, and in 1529 with bishop Tonstal to Cambray. The king, it seems, was so well pleased with his services on these occasions, that in 1530 he made him chancellor; which seems the more extraordinary, as Sir Thomas had repeatedly declared his disapprobation of the king's divorce. He executed that office about three years, with wisdom and integrity, sullied only by employing all the authority of his office in assisting the popish clergy in their rigorous proceedings against the reformers. It is even asserted, on good authority, that he caused one Bainham, a gentleman of the temple, to be whipped and tortured in his own presence. He in 1533 resigned the seals, probably to avoid the danger of his refusal to confirm the king's divorce, and retired to his house at Chelsea; dismissed many of his servants; sent his children with their respective families to their own houses (for hitherto he had maintained all his children, with their families, in his own house, in the true style of an ancient patriarch); and spent his time in study and devotion; but the capricious tyrant would not suffer him to enjoy this tranquillity. Though now reduced to a private station, his opinion of the legality of the king's marriage with Anne Boleyn was deemed of so much importance that various means were tried to obtain his approbation; but, all persuasion proving ineffectual, he was with some others attainted in the house of lords of misprision of treason, for encouraging Elizabeth Barton, the Holy Maid of Kent, in her treasonable practices. When she opened her commission, to admonish the king of his crimes against the church, she called upon More, and made him privy to her pretended revelations. Her affected simplicity and holiness seem to have made considerable impression upon him; he wrote her a letter, and, on this circumstance being made known, the king directed him to be prosecuted as an accomplice with her, and they were named together in one bill of attainder. While this was suspended over him, a committee was appointed to hear his justification of himself; this plan was not, however, intended to free the accused, but with the view of entrapping him to assent to the king's divorce, which Henry thought he would gladly do, to escape the danger that threatened him. He nobly withstood

the temptation, and so completely cleared himself from every imputation of crime, that they were obliged to strike his name out of the bill. He was then accused of other crimes, but with the same effect; till, refusing to take the oath enjoined by the act of supremacy, he was committed to the Tower, and, after thirteen months imprisonment, was tried in the king's Bench for high treason, in denying the king's supremacy. The proof rested on the sole evidence of Rich, the solicitor general, whom Sir Thomas, in his defence, sufficiently discredited; nevertheless the jury brought him in guilty, and he was condemned to suffer as a traitor. Sir Thomas More was unmoved at the sentence, which, though quite conscious of his innocence, he probably expected; and was ordered back to the Tower. On his road, his favorite daughter, Mrs. Roper, who had been anxiously waiting the event, burst through the throng, fell on her knees before her father, and closely embracing him, could only utter the words, 'My father, Oh! my father!' He tenderly returned her embrace, exhorted her to patience and resignation to the divine will, and parted from her. Scarcely had they separated, when, in a new paroxysm of grief, she again burst through the crowd, and clung round his neck in speechless anguish. His firmness was now overcome; tears flowed plentifully down his cheeks, till, with a final kiss, she left him. On the fatal day, July 5th, 1535, he dressed himself in his best apparel, and walked cheerfully to the place of execution; observing that the scaffold was but slenderly built, he turned to the lieutenant of the Tower and said, 'I pray you, Mr. Lieutenant, see me safe up, and for my coming down let me shift for myself.' He requested the spectators to offer up their prayers for him, and to bear witness that he died in and for the Holy Catholic Church, and had been a faithful servant of God and the king. He then addressed himself to his Maker, and calmly submitted to the blow of the executioner, having first requested him to stay his hand till he had removed his beard, 'which at least,' said he, 'has committed no treason.' His body, which was first interred in the Tower, was begged by his daughter Margaret, and deposited in the chancel of the church at Chelsea, where a monument, with an inscription written by himself, had been erected. She also procured his head after it had remained fourteen days upon London bridge, and placed it in a vault belonging to the Roper's family, under a chapel near St. Dunstan's church in Canterbury. Sir Thomas More was a man of some learning, and an upright judge; a very priest in religion, yet cheerful, and even witty on many occasions, particularly at his execution. He wanted not sagacity, where religion was out of the question; but in that his faculties were so enveloped, as to render him a weak and credulous enthusiast. He left one son and three daughters. Sir Thomas was the author of various works, though his *Utopia* is the only performance that has survived, the rest being chiefly of a polemic nature. His English works were collected and published by order of queen Mary in 1557; his Latin at Basil in 1563, and at Louvain in 1566.

MORE (Margaret), the eldest daughter of Sir Thomas More, was celebrated for her knowledge of the Greek and Latin languages. She married Mr. Roper of Well-hall in Kent, whose Life of Sir Thomas More was published by Mr. Hearne at Oxford in 1716. She died in 1544, and was buried in the vault of St. Dunstan's in Canterbury.

MOREA, anciently called Peloponnesus, a peninsula south of Greece, to which it is joined by the isthmus of Corinth. Its form resembles a mulberry-leaf, and its modern name is derived from its abounding with mulberry-trees. It is about 180 miles long and 130 broad. The air is temperate, and the land fertile, except in the middle, where it is full of mountains, and is watered by many rivers. See GREECE and PELOPONNESUS.

MOREAU (James), an eminent French physician, born at Chalons sur Saone, the disciple and friend of the famous Guy Patin. He drew upon himself the jealousy and hatred of the old physicians by his public theses. He died in a very advanced age in 1729. He wrote in French, 1. Consultations on the Rheumatism. 2. A Chemical Treatise on Fevers. 3. A Physical Dissertation on the Dropsy; and other works which are still esteemed.

MOREAU (Jean Victor), one of the oldest and most celebrated of the French revolutionary generals, was born in 1761 at Morlaix in Lower Brittany. His father was a respectable advocate in that town; a profession which, it appears, had been followed by the family for generations. Young Moreau was also intended for the law, and, after the usual studies, was sent to the university of Rennes to take his degrees. In 1788 he was *prevot de Droit*, or head of the students in law at Rennes, a body of young men at all times remarkable for their turbulence and public spirit, and over whom he had considerable influence. In the petty squabbles which at that period took place between the court of France and the parliament, Moreau was, in consequence, appointed their leader, and styled the general of the parliament, whose cause was at that time considered as that of public liberty. In the winter following, however, Moreau acted at the head of this youthful band against that very parliament and the states of Brittany, who were then proceeding against the orders of the court, and the wishes of the people, in resisting the convocation of the general states of the kingdom; for even in his early career Moreau's leading principles appear to have been a sincere love for rational liberty. On those occasions Moreau evinced an equal degree of prudence and courage; and his gentlemanly manners and graceful person added not a little to his popularity. In January, 1790, he acted as president of the confederation of the youth of Brittany, assembled at Pontivy; and, on the formation of the national guards, was named commandant of one of the battalions of that province. Moreau had then, for the first time, an opportunity of embracing permanently a profession so congenial to his feelings; and his labors in the new career he had entered were incessant. His battalion was first reviewed in May 1790; and the inspecting

general, count de Thiars de Bissy, notwithstanding the jealousy which the troops of the line then entertained of the national guard, could not help saying, 'that few colonels of the line, with their old corps, could have afforded him the gratification of seeing so much regularity, discipline, and precision, as in the evolutions of that battalion of national guards.' 'The count de Thiars has done me much honor (said Moreau, returning from the review), but I hope he will live long enough to see me command not only national guards, but the army of the line.' Moreau, however, did not take the steps which were likely to insure his rapid promotion; he showed too openly his hatred of the measures and principles of the anarchists; and the battalion was the last to accept the too famous constitution of 1793, at a time when hesitation was punished with instant death. The convention, however, were in want of good officers; and, in July 1793, he was promoted to the rank of general of brigade by the committee of public safety. His first action as a commander was on the 14th of September, when, with a division of the army of the Moselle, he attacked the Prussian army commanded by the duke of Brunswick. He was defeated; but the duke of Brunswick in his report to the king of Prussia, of the 15th of September 1793, said, that 'his able plan of attack was surpassed only by his yet abler dispositions for retreat; and that the corps he commanded was neither dispersed nor dishonored.' In the autumn of 1793, Moreau became acquainted with Pichegru, who obtained for him the command of a division in the army of the Rhine to which he had been appointed. Under that able master, Moreau, in a variety of enterprises, in which it is not our intention to follow him, acquired that military experience, and those comprehensive views, of which he afterwards so successfully availed himself. It was in the midst of these successes that the Jacobins of Morlaix sent to the guillotine his aged father, who was considered as the father of the poor. The first resolution of Moreau, at hearing the fatal intelligence, was to leave the service of these monsters, and to join the emigrants armed to punish their crimes. He accordingly tendered his resignation to his friend general Pichegru. But Pichegru was of a very different opinion. 'What do you intend to do?' he asked Moreau, 'To quit the army and France?' was the reply. 'To quit the army and France!' repeated Pichegru: 'do you not then see the manner in which the Emigrés are treated by the foreign powers? I do not accept of your resignation. I beg of you, as a friend, to reflect on the step you intend to take—come to me again to-morrow. It is not thus that you should intend to avenge the death of your father! You must think of acquiring a glory and an importance which may one day put you in a situation to avenge it. I shall soon furnish you with an opportunity of distinguishing yourself.' Moreau came the day after to Pichegru, and told him that he was convinced by his reasoning, which appears to have influenced the whole of his conduct afterwards. We shall not follow this commander in his brilliant military career—that belongs to history; but we cannot avoid

observing, that thrice he had the honor of saving the French armies from impending destruction, and on two of these occasions he acted as a simple volunteer, or in subordinate situations in the army, having been superseded by the accomplices of his father's murderer, who dreaded the just vengeance of a man whom his exploits and moral conduct had made so popular with the troops and the people. It was on this occasion that a French colonel, then attached to Moreau's army, asked him, when the order of the directory for superseding him had been just received, 'General, will you obey so insulting a mandate?' 'Yes,' answered Moreau, as a general, an officer, or a soldier, Moreau is always ready to serve France.' His talents as a general again brought him forward, and in 1798 he was sent to command the army of Italy, where, after some brilliant successes, he was obliged to give way to the Russian force under Suwarrow, and he conducted another retreat with great skill. On the return of Buonaparte from Egypt, he at first cordially supported him; but a coldness afterwards ensued, notwithstanding which, Napoleon, as first consul, entrusted him with the command of the armies of the Danube and the Rhine. The celebrated passage of these rivers, with the battles of Moeskirch, Memmingen, Hochstedt, Nedenheim, and others, followed, ending with the decisive victory of Hohenlinden, which induced the Austrians to seek for peace. On his return to Paris he was received by the first consul with the most flattering attention, and he soon after contracted an alliance with a young lady of birth and fortune, and retired to his estate at Grosbois. He finally appears to have implicated himself in the conspiracy of Pichegru and Georges. He was brought to trial, finally declared guilty, and sentenced to two years' imprisonment, and to bear the expenses of the suit. He was, however, allowed to travel in lieu of imprisonment, and to seek an asylum in the United States of America. He accordingly embarked at Cadiz in 1805, and safely reached America, where he bought a fine estate, near Morinville. Here he remained some years in peace, until listening to the invitation of the allies, and more especially of Russia, he embarked for Europe in the July of that year, and reaching Gottenburg, proceeded to Prague. Here he found the emperors of Austria and Russia, with the king of Prussia, all of whom received him with great cordiality.

His first appearance in a military character was before the walls of Dresden, where he was in the act of giving some opinion on military matters, while passing with the emperor of Russia behind a Prussian battery, to which two batteries were answering, one in front and the other in flank; and lord Cathcart and Sir R. Wilson were listening to him, when a ball struck his thigh, and almost carried his leg off, passed through his horse, and shattered his other leg to pieces. He gave a deep groan at first; but, immediately after the first agony of pain was over, he spoke with the utmost tranquillity, and called for a cigar. He was brought safely to Laun, where he seemed to be going on well, till a long conference took place between him and three or four of the allied generals, by which

he was completely exhausted. Soon after this he became extremely sick, and hourly grew worse. Through the whole of his sufferings he bore his fate with heroism, and appeared to those with whom he conversed to endure but little pain, from his extreme composure and calmness. He died the 3d of September 1812.

MOREAU, a post town of Saratoga county, New York, on the Hudson; sixteen miles north-east of Balston-Spa, fifty north of Albany. Population 1347.

MOREBAT, a sea-port on the southern coast of Arabia, on a bay bounded by a cape of this name. The town is about two miles south of the cape. The bay is the safest, and provisions may be had here on the coast, but the inhabitants carry on little trade. Long. 55° 4' E., lat. 17° N.

MORELSE (Paul), an eminent painter, born at Utrecht in 1575. He studied painting under Michael Mirevelt. He was very successful, in portraits, historical subjects, and architecture, after he had improved his taste in Italy. There are some excellent wood-cuts in chiaro-scuro by his artist, who died in 1638.

MOREL', *n. s.* } Lat. *morilla* (*solanum*);
MOREL'LA. } Fr. *morelle*. A plant; an acid kind of cherry.

The *morella* cherry is commonly planted against north walls, where they grow large and hang long, as they are commonly not wanted till late in the season to preserve.

Morel is a black cherry, fit for the conservatory before it be thorough ripe, but it is bitter eaten raw.

Abercrombie.

Mortimer.

Spongy *morels* in strong ragouts are found,
 And in the soup the slimy snail is drowned.

Gay.

MOREL (Andrew), a very eminent antiquary, born at Berne in Switzerland. Having a strong fancy for the study of medals, he travelled through several countries, and made large collections. In 1683 he published, at Paris, in 8vo., *Specimen Universæ rei Nummariæ Antiquæ*. The great work of which this was the specimen was to be a complete collection of all ancient medals, of which he had then 20,000 exactly designed. Soon after this essay appeared Louis XIV. gave him a place in his cabinet of antiques, in which capacity he brought himself into great danger by speaking too freely of M. Louvois on some private account, and he was committed to the Bastille for three years; nor was he released until the death of Louvois, when the canton of Berne interceded in his favor. He afterwards accepted an invitation from the count of Schwartzburg in Germany, by whom he was furnished with every thing necessary for carrying on his grand work. In 1703 he died; and in 1734 was published at Amsterdam part of this collection, in two volumes, folio, under the title of *The-saurus Morellianus, sive familiarum Romanorum numismata omnia, diligentissimè undique acquisita, &c.* Nunc primum edidit et commentario perpetuo illustravit Sigibertus Havercampus. These volumes contain an explication of 3539 medals, engraved, with their reverses.

MOREL (Frederick), interpreter in Greek and Latin, and printer to the king of France, was heir to Vascosan, whose daughter he had mar-

ried. He was born in Champagne, and he died at an advanced age at Paris in 1583. His sons and grandsons also distinguished themselves in literature, and maintained the reputation which he had acquired by printing. The edition of Gregory of Nyssa, by his son Claude Morel, is held in great estimation by the learned.

MOREL (Frederick), son of the preceding, and still more celebrated than his father, was professor and interpreter to the king, and printer of the Hebrew, Greek, Latin, and French languages. He was so devoted to study, that when he was told his wife was at the point of death, he would not stir till he had finished the sentence which he had begun. Before it was finished, he was informed that she was actually dead; 'I am sorry for it,' replied he coldly, 'she was an excellent woman.' He acquired great reputation from his works, which were numerous and well executed. From the MSS. in the king's library, he published treatises of St. Basil, Theodoret, St. Cyrille, &c., and accompanied them with a translation. His edition of the works of Ecumenius and Aretas, in 2 vols. folio, is much esteemed. He died June 27, 1630, aged seventy-eight.

MOREL (William), regius professor of Greek, and director of the French king's printing house at Paris, died in 1564. He composed a *Dictionnaire Grec-Latin-François*, which was published in 4to., in 1622, and some other works which indicate very extensive learning. His editions of the Greek authors are exceedingly beautiful.

MORELL (Thomas), D. D. and F. SS. R. and A., a learned English divine and lexicographer, born in 1701. He published, 1. An edition of Ainsworth's Latin Dictionary, 2. A useful abridgement of it; London 1774: 8vo. 3. Hedericus's Greek Lexicon. He also wrote, 4. Annotations on Locke's Essay, which appeared after his death; and he selected the scriptures for Handel's Oratorios. He died in 1784.

MORENA, in ancient geography, a district of Mysia, in the Hither Asia. A part of it was occupied by Cleon, formerly at the head of a band of robbers, but afterwards priest of Jupiter Abretenus; and enriched with possessions, first by Antony, and then by Julius Cæsar.

MORENA, **SIERRA**, **Montes Marianæ**, a mountain-chain of the Peninsula, extending along great part of the south of Spain and Portugal, and separating the valleys of the Guadiana and Guadalquivir. Commencing on the eastern border of La Mancha, it runs westward along the boundaries of that province and Estremadura, and separates them from Jaen, Cordova, and Seville. On the borders of Portugal it is crossed by the Guadiana; but soon re-appears to the west, separating Alentejo from Algarva, and terminates at the Atlantic in Cape St. Vincent. The chief parts are the Sierra de Cordova and the Guadalcanal mountains in Spain, and the Serras de Caldeirao and Monchique in Portugal. No part of its elevation exceeds 3000 feet, and in many places of its eastern and western extremities it is much less. Its central part occupies nearly the whole of Cordova. There is much romantic and gloomy scenery on the great roads that run near, and the extensive forests, rocks,

and precipices, afford a secure retreat for robbers. In 1767 the Spanish minister, Olavide, attempted to settle here some colonies of French and Germans: they consisted of about 10,000 individuals, spread over a space of 1350 square miles; but, on his removal from office, they were neglected, and soon decayed. In 1791, however, the settlers here amounted to 6200, employed partly in tillage, and partly in manufactures of glass, linen, and woollen. The district inhabited is part of the province of Jaen, and the chief place Carolina.

MOREO'VER, *adv.* More and over. Beyond; besides; likewise; over and above.

Moreover by them is thy servant warned.

Psalm xix. 11.

Moreover he hath left you all his walks.

Shakspeare.

He did hold me dear

Above this world; adding thereto, *moreover*,
That he would wed me, or else die my lover. *Id.*

MORERI (Lewis), compiler of the Historical Dictionary, was born at Barge-mont in Provence, 1643. He studied rhetoric and philosophy at Aix, and divinity at Lyons. At eighteen years of age he wrote a small piece, entitled *Le Pays d'Amour*, and a collection of fine French Poems, entitled *Doux plaisirs de la Poesie*. He learned Spanish and Italian; and translated out of Spanish into French the work entitled *La Perfection Chretienne de Rodriguez*. Being ordained priest, he preached at Lyons, and undertook, when thirty years of age, a new Historical Dictionary, printed at Lyons in one vol. folio, 1673. But his continual labor impaired his health, and he died in 1680, aged thirty-seven. His second volume was published after his death; and four more have since been added. He left also some other works.

MORES (Edward Rowe), a learned English antiquary, born at Tunstall, in Kent, in 1730, and educated in London, and Queen's College, Oxford. He published a curious relic of antiquity, entitled *Nomina et Insignia Gentilitia Nobilium, Equitumque, sub Eduardo I. rege militantium*. Oxon 1748. 4to. In 1752 he was elected a fellow of the Society of Antiquaries; and projected the Equitable Society for Insurance on Lives and Survivorship, by annuities. He wrote, 1. *The History and Antiquities of Tunstall in Kent*: 2. *A Dissertation on Founders and Foundries*: and other works. He died in 1778.

MORESBY, a harbour of Cumberland, above Whitehaven, in and near which many remains of antiquity have been dug up, such as altars and stones, with inscriptions; and several caverns have been found called *Pict's Holes*. It is supposed to have been a Roman fortification.

MORESK, **MORESQUE**, or **MORISKO**, a kind of painting, carving, &c., executed after the manner of the Moors; consisting of several grotesque pieces and compartments promiscuously intermingled, containing a wild resemblance of birds, beasts, trees, &c. These are also called *arabesques*, and are particularly used in embroideries, damask work, &c. See *ARABESQUE*.

MORGAGNI (John Baptist), M. D. and F. R. S., first professor of anatomy in the univer-

sity of Padua, and member of several of the most eminent societies in Europe, was born in 1682, at Forli, in Romagna. He commenced his studies at Forli, but soon removed to Bologna, where he obtained the degree of M. D. when he had but just reached his sixteenth year. His peculiar taste for anatomy found an able preceptor in Valsalva; and such was the progress he made under him, that when but twenty years of age he himself taught anatomy with high reputation. Soon, however, the fame of his prelections, and the number of his pupils, excited the jealousy of the professors, and gave rise to invidious persecutions. But his abilities and prudence gained him a complete triumph; and all opposition was finally terminated on his being appointed by the senate of Bologna to fill a medical chair. But the duties of this important office did not occupy the whole of his time. He soon communicated the fruits of his labors to the public in his *Adversaria Anatomica*, the first volume of which was published in 1706, the second and third in 1717, and the three last in 1719. This excellent work spread his fame far beyond the limits of Bologna. The republic of Venice offered him the second medical chair in the university of Padua; and doubled the emoluments. While in this department, he published his *Nova Institutionum Medicarum Idea*, Padua, 1712, and soon after he rose to be first professor of anatomy in that celebrated university. Although he was thus finally settled at Padua, he gave proofs of his gratitude to Bologna, by exerting his utmost efforts to establish its academy, of which he was one of the first associates; and he enriched their publications with several valuable papers. Soon after this, the royal societies of London and Paris received him among their number. Not long after, he began his *Epistolæ Anatomicae*, the first of which is dated Padua, 1726. He was not more eminent as an anatomist than as a successful physician. In 1760, when he was near eighty years of age, he published his large and valuable work *De Causis et Sedibus Morborum per Anatomiam Indagatis*. This last and most important of all his productions will afford convincing evidence of his industry and abilities to latest posterity. He also published, at different periods, several miscellaneous pieces, which were afterwards collected into one volume, and printed under his own eye at Padua, in 1765. He was endeavouring to collect for publication a complete edition of all his works, when, after he had nearly arrived at the ninetieth year of his age, death put a period to his long and glorious career, on the 5th of December 1771.

MORGANA, **FATA**. See *FATA MORGANA*.

MORGUES (Matthew de), *Sieur de St. Germain*, preacher to Louis XIII., and almoner to Mary de Medicis, was born in Languedoc, in 1582. He wrote the *Life of Louis the Just*, and several severe satires against cardinal Richelieu; particularly one in defence of Mary de Medicis, whom he followed out of the kingdom, and did not return till after Richelieu's death. He died in Paris in 1670.

MORHOFF (Daniel George), a learned German, born at Wismar in Mecklenburgh, in 1639. The duke of Holstein, when he founded a uni-

versity at Kiel, in 1665, made him professor of eloquence and poetry, and afterwards of history; and, in 1680, librarian to the university. He was the author of many orations, dissertations, theses, and poems; but his chief work was his *Polyhistor, sive de Notitia Auctorum et rerum Commentarii*, first published at Lubec in 1688; which has been greatly enlarged since his death in 1691, and gone through several editions. The best is that by John Albert Fabricius, 3 vols. 4to. 1732.

MORIAH, an eminence of Jerusalem, on which Abraham went to offer his son, and David intended to build the temple. The threshing floor of Araunah was upon it, originally narrow, so as scarce to contain the temple, but enlarged by ramparts, and surrounded with a triple wall, so as to add great strength to the temple. It may be considered as a part of Mount Sion, to which it was joined by a bridge and gallery. *Josephus*.

MORILLOS (Bartholomew), a native of Seville in Spain, born in 1613. After having cultivated painting with success in his own country, he travelled into Italy, where he was greatly admired for a style peculiar to himself. The Italians compared him to the celebrated Paul Veronese. On his return to Spain, Charles II. brought him to court, intending to make him his first painter; but he declined the offer. He died in 1685, aged seventy-two.

MORIN (John Baptist), physician and regius professor of mathematics in Paris, was born at Villefranche in Beausolois, in 1583. After commencing M. D. at Avignon, he went to Paris, and lived with Claude Dormi bishop of Boulogne, who sent him to examine the mines of Hungary; and thereby gave occasion to his first production, *Mundi sublunaris Anatomia*, published in 1619. Upon his return to the bishop, he contracted an attachment to judicial astrology, concerning which he furnished the world with a great number of books not worth enumerating. He died in 1656, before he had finished the favorite labor of his life, his *Astrologia Gallica*. Louisa Maria de Gonzaga, queen of Poland, gave 2000 crowns to carry on the edition; and it appeared at the Hague in 1661, in 1 vol. folio.

MORIN (John), a learned Frenchman, born at Blois, of Protes'ant parents, in 1591; but converted by cardinal du Perron to the Catholic religion. He published, in 1626, *Exercitations* upon the origin of Patriarchs and Primates, and the ancient usage of ecclesiastical censures; dedicated to pope Urban VIII. In 1628 he superintended the edition of the Septuagint Bible, with Nobilus's version; and prefixed to it a preface, in which he treats of the authority of the Septuagint, and prefers the version made at Rome by order of Sixtus V. to the present Hebrew text, which he affirms has been corrupted by the Jews. About the same time he gave a French History of the Deliverance of the Church by the emperor Constantine, and of the temporal greatness conferred on the Roman church by the kings of France. He afterwards published *Exercitations* upon the Samaritan Pentateuch, and revised the Samaritan Pentateuch for the

Polyglot then preparing at Paris. He was greatly caressed at Rome, to which he was invited by cardinal Barberini, and whence, after living nine years, he was recalled by cardinal Richelieu, and died in Paris in 1659. His works are very numerous; and some of them much valued for their oriental learning.

MORIN (Lewis), M. D., was born at Mans in 1635. He went on foot to Paris to study philosophy, and collected herbs during the journey. He afterwards studied physic, and lived like an anchorite; bread, water, and a few fruits, being his whole subsistence. Paris was to him a hermitage, with this exception, that it furnished him with books, and with the conversation of the learned. He received the degree of M. D. in 1662. Madam de Guise chose him for her first physician, and the Academy of Sciences for one of its members. He died A. D. 1715, aged eighty. He left a library valued at 20,000 crowns, an herbal, and a cabinet of medals; which seem to have been his whole fortune. An index to Hippocrates, in Greek and Latin, much more copious and better finished than that of Pinus, was found among his papers.

MORIN (Peter), a learned French critic, born at Paris in 1531. He went into Italy and was employed by the learned Paul Manutius in his printing-house in Venice.—He afterwards taught Greek and cosmography at Vincenza, whence he was called to Ferrara by the duke. St. Charles Borromeus, informed of his profound knowledge in ecclesiastical antiquities, offered him his patronage, and engaged him to go to Rome in 1575. The popes Gregory XIII. and Sixtus V. employed him on an edition of the Septuagint, 1587, and on one of the Vulgate, 1590, in folio. He also spent much of his time on an edition of the Bible translated from the Septuagint, and published in Rome, 1588, in folio; on an edition of the Decretals to the time of Gregory VII., published at Rome, 1591; and on a Collection of General Councils, likewise published at Rome, 1608, 4 vols. He died in Rome 1608, aged seventy-seven. His character was open, simple, sincere, gentle, and honest; his temper was equal and agreeable. He left behind him *Un Trait  du bon Usage des Sciences*, and some other writings, published by F. Quetif, a Dominican friar, in 1675.

MORIN (Simon), a celebrated fanatic of the seventeenth century, born at Richemont, near Aumale. He had been clerk to M. Charron, general paymaster of the army; and, after broaching his whimsies in conversation, had got them privately printed, in 1647, under the title of *Pens es de Morin dedi es au Roi*. This book is a medley containing the chief errors which were afterwards condemned in the Quietists; but Morin carries them to a much greater length; for he affirms 'that the most enormous sins do not remove a sinner from the state of grace, but serve on the contrary to humble the pride of man.' He adds, 'that there would soon be a general reformation in all nations, effected by the second coming of Jesus Christ, and Morin incorporated with him.'—He was in prison at Paris when Gassendi's friends were writing against the astrologer John Baptist Morin, whom they upbraided

with being the brother of this fanatic. This was about 1650; after which Simon was set at liberty as a visionary, and suffered to continue so till 1661, when Des Marets de St. Sorlin, who, though a fanatic and visionary himself, had conceived a violent aversion to him, discovered his whole scheme, and had him taken up. Des Marets pretended to be one of his disciples, and carried his treachery so far as to acknowledge him for 'the Son of man risen again.' This so pleased Morin, that he conferred upon him the office of being his harbinger, calling him John the Baptist revived. Then Des Marets impeached him; upon which Morin was tried, and condemned to be burnt alive. This barbarous sentence was executed at Paris, March 14th, 1663; and after making the amende honorable in his shirt, with a cord about his neck and a torch in his hand, he was burnt alive, together with his Pensées, and all his papers; and his ashes were thrown into the air. His accomplices, too, were condemned to assist at his execution, and to serve in the galleys for life, after having been whipped by the hangman, and marked with a burning iron with fleurs de lis upon both shoulders. Morin gave out that he would rise again the third day; which made many gather together at the place where he was burnt.

MORIN (Stephen), minister of the Protestant reformed religion at Caen, his birth place, was, for his learning, admitted a member of the Academy of Belles Lettres in that city, notwithstanding an express law which excluded Protestants. After the revocation of the edict of Nantes, he retired to Leyden in 1685, and thence to Amsterdam, where he was appointed professor of oriental languages. He died in 1700, aged seventy-five. He published eight dissertations in Latin on subjects of antiquity, which are extremely curious. The Dordrecht edition of 1700, 8vo., is the best. He wrote likewise the Life of Samuel Bochart.

MORINA, in botany, a genus of the monogynia order, and diandria class of plants; natural order forty-eighth, aggregatæ: cor. unequal; CAL. of the fruit monophyllous and dentated; that of the flower bifid; SEED one under the latter.

MORINDA, in botany, a genus of the monogynia order, and pentandria class of plants: natural order forty-eighth, aggregatæ. The flowers are aggregate and monopetalous; the stigmata bifid; fruit plums aggregate, or in clusters.

MORINI, an ancient nation of Gallia Belgica, who lived on the coast of the British Ocean. They were styled extremi hominum by the Romans, from their situation on the extremities of Gaul. They had two cities.

MORINIÈRE (Adrian Claud Le Fort, De la), an elegant French writer, born in Paris in 1696. He wrote, 1. *Choix des Poesies Morales*; 2. *Bibliothèque Poétique*; 3. *Passe-Tems Poétiques, Historiques, et Critiques*. He died in 1768.

MORINORUM CASTELLUM, in ancient geography, or simply Castellum (Antonine), a city of Gallia Belgica, belonging to the Morini, situated on an eminence, with a spring of water on its top; now called Mont Cassel in Flanders.

MO'RION, *n. s.* Fr. *morion*; Ital. *morione*. A helmet or casque; armour for the head.

For all his majesty's ships a proportion of swords, targets, *morions*, and cuirass of proof should be allowed.

Raleigh.

Polished steel that cast the view aside,

And crested *morions* with their plummy ridge.

Dryden.

MORIS'CO, *n. s.* Span. *morisco*. A dancer of the Moorish or morris-dance, which see.

I have seen

Him caper upright like a wild *morisco*,

Shaking the bloody darts, as he his bells

Shakespeare.

MORISON (Robert), M. D., professor of botany at Oxford, was born in Aberdeen in 1620, educated at the university there, and professed philosophy for some time in it; but became chiefly famous for his skill in botany. The civil wars obliged him to leave his country, after he had signalised his zeal for the king, in a battle fought between the inhabitants of Aberdeen and the Presbyterian troops, on the bridge of Aberdeen, in which he received a dangerous wound on the head. As soon as he was cured of it, he went into France; and, fixing in Paris, he applied assiduously to botany and anatomy. He was introduced to the duke of Orleans, who gave him the direction of the royal gardens at Blois. He exercised this office till the death of that prince, and afterwards went over to England in 1660. Charles II., to whom the duke of Orleans had presented him at Blois, sent for him to London, and gave him the titles of his physician, and professor royal of botany, with a pension of £200 a year. The *Præliudium Botanicum*, which he published in 1669, procured him so much reputation that the university of Oxford invited him to the professorship of botany in 1669; which he accepted, and acquitted himself in it with great ability. He died at London in 1683, aged sixty-three. He published a second and third part of his History of Plants in 2 vols. folio, entitled *Plantarum Historia Oxoniensis Universalis*.

MORISONIA, in botany, a genus of the polyandria order, and monadelphia class of plants: natural order twenty-fifth, putamineæ; CAL. single and bifid; cor. tetrapetalous; pistil one; berry having a hard bark, unilocular, polyspermous, and pedecellated.

MOR'KIN, *n. s.* Among hunters, a wild beast, dead through sickness or mischance.—*Minsheu and Bailey.*

MORLAIX, a large and well built town in France, in the department of Finisterre, situated about five miles from the sea, on a river of this name, which forms a harbour, and by which coasters, or other small vessels of 100 tons, come up to the town. Larger vessels find a safe anchorage in the spacious bay, where there is a fort (Fort Taureau) and a small town called Viniec. Morlaix has two large streets; and on the bank of the river there is a fine quay, bordered with handsome houses, along which there extends a row of piazzas, forming an agreeable promenade, called La Lance, and serving also as an exchange. The public buildings are churches of no great architectural beauty, and an hospital.

The trade embraces cattle, flax, hemp, and linen, and its manufactures of paper, tobacco, and leather. Morlaix was appropriated to the reception of flags of truce from England in 1810, and often during the late war. It was the birth-place of Moreau. Population 10,000. Thirty-four miles E. N. E. of Brest.

MORLAND (George), an ingenious, dissipated, and unfortunate painter. As he had no other education than what was connected with the pencil and pallet, he shunned the society of the well-informed and the well educated; and his pictures accordingly are taken, for the most part, from low life, and from the most humble, if not the most shocking, situations in which mankind consort. The following anecdote will give a sufficient view of Morland's character. 'He was found (says his biographer) at one time in a lodging in Somers-Town, in the following extraordinary circumstances; his infant child, that had been dead nearly three weeks, lay in its coffin in one corner of the room; an ass and foal stood munching barley-straw out of the cradle; a sow and pigs were solacing themselves in the recess of an old cupboard; and himself whistling over a beautiful picture that he was finishing at his easel, with a bottle of gin hung up on the side, and a live mouse sitting (or kicking) for its portrait.' His dissipated habits at length led him into the king's-bench prison, where his talents were laid under contribution by framemakers, picture-dealers, and others, who taking advantage of his weak addiction to liquor, indulged his caprice and his wants; taking in return the ingenious productions of his pencil. These they sold again to great profit; and when some of them, more speculative than the rest, released him from imprisonment, it was only to immerse him in a private house, and take to themselves all the benefit of his labors; preventing any knowledge to the world of the place where he resided, and keeping him in almost a constant state of intoxication. It could not be expected, that in such a mode of existence the vital spark should long support the bodily frame. His constitution rapidly gave way, and he died in 1804 before he had reached his fortieth year.

MORLING, *n. s.* } French, *mort*. Wool
MORTLING. } plucked from a dead sheep.—*Minshcu and Ainsworth*.

MORN, *n. s.* } Sax. *mapne*, *morn-*
MORNING, *n. s.* & *adj.* } *gen*; Goth. *morgan*;
MORNING-GOWN, *n. s.* } *Den.* and *Teut.* *mor-*
MORNING-STAR. } *gen.* The first, or
early part of the day: early: morning-gown and morning-dress are a dress used, and the most remarkable star in the morning, i. e. Venus.

Let us go down after the Philistines by night, and spoil them unto the morning light. 1 Sam. xiv. 36.

Bright as doth the morning-star appear,
Out of the East with flaming locks bedight,
To tell the dawning day is drawing near.

Faerie Queene.

She looks as clear
As morning roses newly washed with dew.

Shakspeare.

The cock, that is the trumpet to the morn,
Doth with his lofty and shrill-sounding throat
Awake the god of day.

Id. Hamlet.

By the second hour in the morning
Desire the earl to see me. *Id. Richard III.*
What shall become of us before night, who are
weary so early in the morning?

Taylor's Guide to Devotion.

Can you forget your golden beds,
Where you might sleep beyond the morn? *Lee.*

The morning is the proper part of the day for
study. *Dryden.*

Seeing a great many in rich morning gowns, he was
amazed to find that persons of quality were up
so early. *Addison.*

Friendship shall still thy evening feasts adorn,
And blooming peace shall ever bless thy morn. *Prior.*

The twining jessamine and blushing rose,
With lavish grace their morning scents disclose. *Id.*

All the night they stem the liquid way,
And end their voyage with the morning ray. *Pope.*

Every morning sees her early at her prayers; she
rejoices in the beginning of every day, because it be-
gins all her pious rules of holy living, and brings
the fresh pleasures of repeating them. *Law.*

Frae morn to e'en it's nought but toiling,

At baking, roasting, frying, boiling;

And though the gentry first are stechin,

Yet even the ha' folk fill their pechan

Wi' sauce, ragouts, and sic like trashtrie,

That's little short o' downright wastrie. *Burns.*

By night I heard them on the track,
Their troop came hard upon our back,
With their long gallop, which can tire
The hound's deep hate, and hunter's fire;
Where'er we flew they followed on,
Nor left us with the morning sun. *Byron.*

MORNAY (Philip de), lord of Plessis-Marly, was born at Buhy or Bishuy in Upper Normandy, November 5th, 1549, and educated at Paris. He made a rapid progress in the learned languages, theology, and the belles lettres. He was at first destined for the church; but the principles of Calvinism, which he had imbibed from his mother, effectually excluded him from ecclesiastical preferment. After the horrible massacre of St. Bartholomew he made the tour of Italy, Germany, England, and the Low Countries; and on his return joined the king of Navarre, then leader of the Protestant party, afterwards the celebrated Henry IV. This prince sent him to conduct a negotiation with Elizabeth, queen of England; and left him wholly to his own discretion in the management of that business. He was successful in almost every negotiation, and conducted them like an upright as well as able politician. He tenderly loved Henry IV.; spoke to him on all occasions as to a friend; and did every thing in his power to raise him to the throne. But, when he renounced the Protestant faith, he reproached him in the bitterest manner, and retired from court. Henry still loved him, and was extremely affected with an insult which he received in 1597 from one St. Phal, who assaulted and left him for dead. Mornay's knowledge, probity, and valor, made him the soul of the Protestant party, and procured him the appellation of the pope of the Huguenots. He defended their doctrines by speech, writing, and military prowess. One of his books, on the Iniquity of the Mass, having

stirred up all the Catholic divines, he refused to make any reply to their criticisms except in a public conference. This was appointed to be held in 1600, at Fountainbleau, where the court then was. The two champions were, Du Perron, bishop of Evreux, and Mornay. After many arguments and replies on both sides, the victory was adjudged to Du Perron. The Calvinists, however, claimed the victory; and this conference, instead of putting an end to the differences, was productive of new quarrels among the controversialists, and of much profane wit among the libertines. He retired to Saumur, an important place on the Loire, of which he was governor; his attention being constantly occupied in defending the Huguenots. When Louis XIII. was making preparations against the Protestants, Mornay wrote him a letter, dissuading him against such a measure, in consequence of which remonstrance he was deprived of the government of Saumur. He died November 11th, 1623, aged seventy-four, at his barony of Foret sur Seure, in Poitou. The Protestant cause never had an abler supporter, or one who did it more credit by his virtues and abilities. He wrote, 1. *Un Traité de l' Euchariste*, 1604, in folio. 2. *Un Traité de la vérité de la Religion Chretienne*, 8vo. 3. *La Mystere d'Iniquité*, 4to. 4. *Un Discours sur le droit pretendu par ceux de la maison de Guise*, 8vo. 5. *Memoirs from 1572 to 1629*, 4 vols. 4to. David des Liques published his life in 4to.

THE MORNING-STAR is Venus when a little to the west of the sun; that is, when she rises a little before him. In this situation she is called by the Greeks Phosphorus; by the Latins Lucifer, &c. See ASTRONOMY.

MOROCCO, also called West Barbary, includes the kingdoms of Fez and Morocco, properly so called. It extends eastward from the Straits of Gibraltar to the borders of Algiers, and southwards to the Great Sahara; or from about 28° to 36° of lat., and from 1° 30' to more than 10° of W. long. The coast along the Mediterranean is upwards of 200 miles, and that along the Atlantic nearly 600. Its breadth varies from 200 to 400 English miles; but this space includes the province of Suse, rather a nominal than a real part of this empire. It is bounded on the north and west by the Mediterranean and the Atlantic; Algiers forms a part of the eastern frontier, and on all the other sides it terminates in the wide expanse of the deserts.

The grand geographical characteristic of this country is the chain of the Atlas, by which it is traversed in its whole extent. Its summits are covered with perpetual snow, and are estimated at not less than 13,000 feet above the level of the sea. It descends in Eastern Barbary; but here it contains mines of iron, tin, antimony, and copper; which, however, with the exception of antimony, are seldom worked; but the latter is extensively used in cosmetics. Mineral salt occurs in great abundance; and makes a considerable article of export to Soudan. Morocco is traversed by the great chain of Atlas, as already mentioned in the general view. A comparatively plain or level country is comprised between the Atlas chain and the sea, of about 400 or 500 miles in length,

and from fifty to 100 in breadth, which forms the most fertile and populous part of the empire. Beyond the Atlas it includes the provinces of Darah, Tafilet, and Sigilmessa, which at first are fertile, abounding in dates and wool, but gradually pass into the Great Sahara. This region forms a kind of gradual transition from the fertile plains on the northern coast to the barren deserts of the interior. Dates are its chief produce, and at once form the principal food of the inhabitants and their most valuable article of commerce. The barbarous races here, in proportion as they are removed from the seat of empire, shake off the restraint of sovereign authority, till at last they set the power of the sultan at defiance.

Mr. Jackson states the climate of Morocco to be healthy and invigorating. From March to September the atmosphere is scarcely ever cloudy, and even in the rainy season, from September to March, there is seldom a day in which the sun does not shine during some part of it. The climate on the opposite of the range is much hotter and much less refreshed by rain than that on the northern, while it is at the same time more exposed to the hot winds from the arid plains of the interior. Some of the western districts of Barbary, Ali Bey says, remind him of the green fields of England, notwithstanding their neglected husbandry; but this character is far from being applicable to the whole; for that celebrated traveller and his attendants had nearly perished in one of the eastern deserts. In reference to this, he observes, 'there is no animal of any kind to be seen in this desert, neither quadrupeds, birds, reptiles, nor insects, and the traveller who is obliged to pass through it is surrounded by the silence of death.' The climate, it deserves to be remarked, also, is sometimes subject to great heat, for Ali Bey says, that, in the beginning of June, Reaumur's thermometer stood at 26.7° in the tent, though the day was cloudy. This is about 92° of Fahrenheit.

The principal streams that descend from the north-west side of the Atlas chain are the Seboo, the Morbea, the Tensift, and the Suse, in Morocco, all of which fall into the Atlantic; and the Moulua into the Mediterranean. The superior fertility of this part of Africa is obviously produced by the more copious supply of moisture from the chain of Atlas; for wherever that supply either fails, or is more scanty, the soil, which is light and sandy, becomes an arid desert, similar to those in the more southern parts. The soil in other districts, however, consists of a pure clay, about as destitute of vegetation as a brick floor; and in others the desert is covered with a kind of calcareous stone, which Ali Bey considers as a volcanic production.

The vegetable productions are not materially different from those of southern Europe; the chief grain being wheat and barley. The crops are generally good, and there is only one annual harvest. Several kinds of pulse are cultivated, with esculent vegetables, herbs and fruit; and, in addition to those on the opposite side of the Mediterranean, may be named the palm-tree and lotus.

The domestic animals of North Africa are also

allied to those of Southern Europe, with the addition of the camel. This animal is in common use throughout Morocco. The maherry, or herie, desert camel, is a light and swift species, much used for travelling; and the breed of horses is praised. They were the boast of ancient Numidia, and are still held in high estimation. Asses and mules are chiefly employed in domestic labor. Cattle are also kept, and large flocks of sheep on the sides of the mountains; while goat skins supply the Morocco leather, so much admired. The wild animals of these regions present an extensive theme. The Numidian lion maintains his ancient character for strength and ferocity; and it often requires all the precaution and ingenuity of the inhabitants to guard against him. The panther, the wild boar, and the hyæna, are common. The antelope, or gazel, bounds over the precipices, and has become their highest term for female beauty. The jerboa and the jerd are two small animals, not much bigger than a rat, which burrow in the ground, and are said to be good food. Besides these, there are apes, jackals, foxes, hares, serpents, lizards, and cameleons. Jackson describes an animal called the Aoudad, which inhabits the steep and inaccessible cliffs of Mount Atlas, and is about the size of a calf, with a beautiful beard growing from the lower part of the neck; he is very wild, and rarely taken alive. The serpent tribes are numerous, and some of them furnished with most deadly poison. Others are suffered to live in the houses without molestation, and in some places are even considered a benediction on the household. The boa constrictor is seen on the south of the Atlas, from sixty to eighty feet long. The most destructive of this class of reptiles are the scorpions, which are numerous in all the Barbary states, but the sting is less venomous on the north than on the south side of the mountains.

Ostriches are taken in the southern parts of Barbary, and their feathers more valuable than in any other part of Africa. Besides these there are pelicans, eagles, flamingoes, storks, herons, bustards, wild-geese, pigeons, turtle-doves, ring-doves, partridges, plovers, and a variety of small birds. The insect tribes are numerous, beautiful, and varied. But the most formidable, from its numbers and resistless progress, is the locust, which frequently proves a most terrible enemy. They are bred on the confines of the great desert, but at irregular intervals are impelled by necessity towards the cultivated tracts of the north.

Under the name of Mauritania this country was once occupied by a hardy Nomadic race, who were never thoroughly subdued by the Romans. At a later period it yielded to the arms of the Saracens, whose different dynasties disputed its possession. At length a re-action took place from the vast deserts south and east; and, in the eleventh century, a chief of Lemptuna assumed the character of a reformer of the Mahometan religion, and acquired so high a reputation that all the neighbouring tribes flocked to his standard. His followers, under the appellation of Almoravides, conquered Morocco, Barbary, and even Spain, thus establishing a great empire, entitled that of Mogreb, or the West. In the

following century they were supplanted by a new dynasty, called the Almohades, who soon found other rivals. At length, in 1547, an Arabian chief of the race of Scheriffs, or descendants of Mahomet, ascended the throne of that region, which his posterity have ever since maintained and established here perhaps the most complete despotism on the face of the earth.

Differer statements have been made as to the present population of Morocco. That of Mr. Jackson, many years British consul at Mogadore, makes it much greater than any other writer. He instituted numerous enquiries on the subject, and was allowed to consult the 'Imperial Register of the inhabitants of each province.' He gives the following as the result:—

	Population.
City of Morocco	270,000
Fez	380,000
Mequinez	110,000
Other cities	235,000
Province of Erreef	200,000
El Garb	200,000
Benihassen	300,000
Tedla	450,000
Fez	1,280,000
Duquella	966,000
Temsena and Shawia	1,160,000
Abda	500,000
Shedma	550,000
Morocco	1,250,000
Haha	708,000
Draha	350,000
Suse	2,427,000
Tafilelt	650,000
Brebers	3,000,000
	<hr/>
	14,986,000

Chenier and Hoest conceive that the whole number of this people cannot exceed 5,000,000 or 6,000,000. In particular the city of Morocco, estimated at 270,000, cannot, they suppose, contain more than 30,000. From these and other circumstances it may be doubted whether these archives are not referrible to a former period.

The emperor, as we have before observed, is absolute; there is neither an ulema here as in Turkey, at the head of the religion, nor even any divine or public council at the head of the state. All is at the single command and determination of the sovereign, and no one is supposed to have either life or property but at his disposal. He orders one person to do this, and another that, according to his caprice. Some of these monarchs have been said to consider adherence to their engagements as an unlawful check on their power. 'Takest thou me for an infidel,' said one of them to a traveller, 'that I must be a slave of my word?' He cannot, however, safely invade the domestic privacy of his subjects, nor shock any of those customs to which long establishment has given the force of law. He is expected also to give public audience four times a week, where he administers justice to all, even the poorest, on horseback. Yet prudent persons usually think it more eligible to acquiesce in the sentence of the *cadî*, than to afford to the emperor any insight into their private affairs. Muley

Ismael greatly contributed to establish the present determined and ferocious character of this power; he first employed negro mercenaries among his regular troops. Besides these there are now 12,000 to 14,000 Moors (chiefly cavalry) in the emperor's service, and might be disciplined to make excellent soldiers. Ali Bey states the imperial revenue at £1,250,000.

The trade carried on between England and these northern regions of Africa has not been hitherto considerable; but English articles are now in request in many parts. With a view of encouraging commerce the emperor, in February 1818, issued a decree, granting to European merchants the liberty of settling in his dominions, promising them protection, and commanding the governors and magistrates to take care that they were not defrauded by the natives. The imports are sugar, spices, iron, tin, lead, copper, woollens, linens, raw silk, gums, hardware, glass, beads, toys, and various other minor articles, besides Mexican dollars, which, in 1804, amounted to 99,000. The exports, almonds, gums, skins and hides, bees' wax, olive oil, wool, ostrich feathers, pomegranate peels, and dates. The ports with which Morocco chiefly communicates are London, Amsterdam, Marseilles, Leghorn, Lisbon, Cadiz, and Teneriffe. Jackson states the value of the imports, in 1804, at £151,450, and of the exports £127,679. Besides the trade with European nations a considerable intercourse is carried on with the interior of Africa by caravans, which travel to Tombuctoo and Soudan. The articles with which these are freighted are salt, cloths, toys, beads, and various European goods; for which they bring in return gold, ivory, gums, and slaves.

The religion of Morocco is the most intolerant Mahometanism; under pretence of which fanatics constantly raise themselves to the character of saints by working pretended miracles. There is not, however, any body of priests, like the Ulema; while they generally indulge to the utmost of their power in the number of their wives and concubines. The same sanctity is usually ascribed to idiots. The state of knowledge in such a community may be easily conceived.

'Those rich plains of Fez and Morocco,' says M. Sismondi, 'which, five centuries ago, were illumined by so many academies, so many universities, and so many libraries, are now reduced to deserts of burning sand, for the possession of which tyrants contend with tigers. All the gay and fertile shores of Mauritania, where commerce, the arts, and agriculture, had arisen to the highest prosperity, are now the nests of pirates, who spread terror on the seas, and who retire from their labors to the most shameful debaucheries, till the plague annually returns to mark out its victims, and to avenge offended humanity. In this vast extent of country nothing is to be found but ignorance, slavery, terror, and death.' Another writer observes, 'Nor have these doctrines had less influence on the political state, than on the physical scenery or domestic inners of these regions, and hence the barbarous politics of a nation of tyrants and slaves, where each man is alternately degraded by the power of those above

him, to the one state, or raised by the abjectness of those below him, to the other, presents but an uninviting picture to the enlightened mind, and can afford little satisfaction, except by increasing our attachment to that mild system of laws, and heightening our ideas of the purity of that religion, which, as Englishmen, providence has allotted us. For, among the governments of Barbary, all the bad passions which render their possessors the scourge and terror of society—envy, jealousy, and avarice, exasperated by ferocity of temper and of manners, rendered permanent by immutable prejudices, but rarely illumined by transient flashes of magnanimity and courage—seem to rage without control in the unhappy courts of these states.'

The basis of the population is formed of what are called Moors, consisting of the original people, now mixed with their Arab conquerors, and with the tribes who have at various times poured in from the African deserts. To these is added a considerable number of the Moors whose ancestors once reigned in Spain. All these being moulded nearly into one, by the strict and uniform character of the Mahometan observances, the cities present the same gloomy aspect as in all Moorish states; that of strict seclusion of the female sex; habits of gravity and silence among the men, who meet only in the public coffee-houses; high national pride and contempt for all other people. In the country the habits of life are entirely different. There the people live chiefly in douars, or moveable villages, composed of tents, which, whenever the spot on which they are placed is exhausted, they strike, and move in search of a more productive quarter. The women are not confined; but being subjected to hard labor, tanned by the sun, and sometimes even yoked to the plough, these habits of hardihood banish every attraction.

When the Moor appears any where abroad he generally assumes a degree of solemnity, gravity, and decorum, in his outward deportment, which have little correspondence with his sentiments and actions. This character, however, is more applicable to the western, than the eastern countries, where a commercial and sea-faring life has imparted to the people activity, animation, and bustle, whilst it has not diminished their native ferocity. The Moors, though altogether strangers to literature, arts, and sciences, are frequently engaged in commerce. Mr. Jackson, who had good opportunities of becoming acquainted with the mercantile part, describes them as 'suspicious, deceitful, and cruel; they have no respect for their neighbours, but will plunder one another whenever it is in their power; they are strangers to every social tie and affection, for their hearts are scarcely susceptible of one tender impression; the father fears the son, the son, the father; and this lamenable mistrust, and want of confidence, diffuses itself throughout the whole community. The pride and arrogance of the Moors are unparalleled; for though they live in the most deplorable state of ignorance, slavery, and barbarism, yet they consider themselves as the first people in the world, and contemptuously term all others barbarians.' Th

same writer, however, allows them the merit of possessing fortitude in a very eminent degree, and of acting upon their faith in the doctrines of Mahomet, in a way that would put some Christians to the blush. 'It must be confessed,' he says, 'that some of the well-educated Moors are courteous and polite, and are possessed of great suavity of manners. They are affable and communicative, where they repose confidence; and if, in conversation, the subject of discussion be serious, and the parties become warm in dispute, they have generally the prudence to turn the subject in a delicate manner; they are slow at taking offence, but when irritated are noisy and implacable. There is one noble trait in the character of this people, which I cannot avoid mentioning, that is fortitude under misfortune: this the Moor possesses in an eminent degree; he never despairs, no bodily suffering, no calamity, however great, will make him complain, he is resigned in all things to the will of God, and waits in patient hope for the melioration of his condition.'

The Moors are generally of the middle stature, but less robust than Europeans. Their legs appear clumsy, which some have supposed to arise from their always sitting cross-legged. From intermarriage, and frequent intercourse with the negroes of Soudan, their complexion is of all shades from black to white. The women of Fez are nearly as fair as Europeans, with the exception of their eyes and hair, which are always black. The females of Mequinez are proverbially handsome; and both sexes have good teeth. In some parts they dye their hands and feet with the juice of henna.

Their dress is described as consisting of a shirt and drawers, the former being worn over the latter, and reaching about to the knee. Over this they wear a caftan, or coat, which buttons down the front. The head is covered with a red cap and turban, and the feet with yellow slippers or sandals. When they go out, a piece of white cotton or silk, five or six yards long and five feet broad, called a hayk, is carelessly thrown over the head, and, when in the presence of a superior, the hayk rests on the shoulders instead of the head. The dress of the women resembles that of the men, except in the adjustment of the hayk, and the slippers being red. They also wear numerous rings, bracelets, and other ornaments. The most gaudy colors are generally preferred. Some slight modifications may take place in the different states, but this is the general Moorish costume. Marriage is conducted, as in other Mahometan countries, entirely by the parents, and the parties sometimes never see each other till after the ceremony is past. Polygamy is allowed, and the number of concubines is unlimited. In Tully's Narrative of a ten years' residence at Tripoli, it is stated that 'the Moors marry so extremely young, that the mother and her first-born are often seen together as play-mates, equally anxious and angry in an infantine game. The women here are often grandmothers at twenty-six or twenty-seven years of age; it is no wonder, therefore, that they live to see the children of several generations.'

Nearly all these regions abound in Arab pas-

toral tribes, who retain much of the Asiatic manners and appearance. An Arab tribe was met on its march by Col. Keating, producing a very characteristic and picturesque group. 'The men and boys naked, with long staves, drove cattle of every description blended. The camels presented the whole menage of the family; three ladies, muffled up to the eyes, sat upon the summit ridge of the awkward animal, surrounded below by the heads of the young broods, and domestic fowls dotted here and there throughout the groups. A few men, mere skin and bone, on horses nearly as décharnés as themselves, with fire-arms in their hands, and suspicion in their countenances, guarded the fair, their families, goods, and chattels.'

Another distinct class found here are the brebers, or berebers, who inhabit the declivities of Mount Atlas, particularly the northern part of the chain. They appear to be descendants of the aboriginal inhabitants, who have been driven from the plains by foreign invasion. They live chiefly in tents, and are occupied in husbandry and keeping bees. They are a robust, nervous people, divided into various tribes, and regard with great indignation the people by whom the lower parts of the country are occupied, while the idea formed of them, by their Saracen conquerors, may be readily perceived from their character as drawn by a celebrated Arabian writer, who says, 'they are the offspring of the giant Goliah, whom they resemble in strength and wickedness.' Their language is wholly distinct from the Arabic in common use among the other tribes. It is supposed by Adelung to be the same with Tibboo, the Tuarick, and other indigenous tongues spoken in that part of Africa.

The southern sides of the Atlas are peopled by the Shelluhs, who live in towns, or villages, and are chiefly occupied in husbandry, like the brebers, but differ from them in appearance, language, and manners. They are smaller and more civilised: and several of the families are supposed to be descended from the Portuguese, who once occupied most of the towns on the west coast of Barbary. Their language is considered merely as a dialect of the brebers. In addition to these tribes great numbers of negroes, are annually brought from Soudan as slaves.

The Jews are very numerous in Morocco, particularly in the cities, and carry on all the mercantile and money transactions. Every species of oppression and contempt, however, is heaped upon them. They are not allowed to mount on horseback, nor even to sit before a Moor with crossed legs. The meanest Moors will insult or maltreat them, or even enter their synagogues for the purpose; neither may they read or write Arabic, which, as the language of the koran, is considered too holy for them. When the emperor, or men in power, happen to be in want of money, they hesitate not to relieve their difficulty by stripping the Jews of large portions of wealth, however carefully it may be concealed. Catholic convents, however, are protected, though liable to various vexations, at Morocco, Mogodor, Tangier, and Mequinez.

Morocco, the capital of the above state, called

also Marakasch by the natives, is situated on a fertile plain interspersed with groves of lofty palm-trees, and bounded on the south-east by the snowy mountains of Atlas, the nearest of which is about twelve miles distant: being the principal residence of the emperor, it is generally considered as the capital of the empire, though Fez contains a much greater population. It was founded about the middle of the eleventh century, and before the termination of the twelfth attained its highest prosperity. The space included between the walls is capable of containing a population of more than 300,000 individuals; but much of it is now covered with gardens and dilapidated building and the present number of its inhabitants is estimated at 40,000. But see the above article. The situation is in general salubrious, and the mountains defend it from the Shume, or hot winds of the desert, but the plague sometimes makes great ravages. The streets are narrow, irregular, and gloomy, and the houses without front windows. A few are built of stone, but the greater number are composed of earth and lime. The streets are subject to all the inconveniences of not being paved. Morocco, however, has many tokens of its former grandeur. Its temples and mosques are numerous, large, and splendid. The walls are thick and high, and strengthened by towers. The palace of the sultan stands beyond them, on the south, and comprises a vast group of buildings, courts, and gardens; the whole space being enclosed about three miles in circumference. Fez is the capital of the kingdom of that name, and situated about 230 miles north-east of Morocco. It is quite certain that the recent capture of Algiers, by the French, will entirely change the political character of this despotic government.

MOROCCO, or MARROQUIN, the skin of a goat, or some other animal resembling it, dressed in sumach or galls, and dyed of any color at pleasure; much used in book-binding, &c. The name is derived from the kingdom of Morocco, whence the method of preparing these skins was first borrowed. Morocco skins are brought from the Levant, Barbary, Spain, Flanders, and France; red, black, yellow, blue, &c. See LEATHER.

MOROSE, *adj.* } Lat. *morosus*. Sour; peevish; sullen: the adverb MOROSELY, *adv.* } and substantive correspond.

Why then be sad,

But entertain no *morosity*, brothers, other
Than a joint burthen laid upon us.

Shakspeare.

Some *morosities*

We must expect, since jealousy belongs
To age, of scorn, and tender sense of wrongs.

Denham.

The pride of this man, and the popularity of that;
the levity of one, and the *morosity* of another.

Clarendon.

And thus they took prisoner the earl of Bath in Devonshire, who neither had, or ever meant to do the king the least service; but only out of the *morosity* of his own nature, had before, in the house, expressed himself not of their minds. *Id.*

It (love) avoideth that unreasonable suspiciousness and diffidence, that timorous shyness, that crafty reservedness, that supercilious *morosity*, that fastidious sullenness, and the like untoward dispositions,

which keep men in estrangement, stifling good inclinations to familiarity and friendship. *Barrow.*

Mankind may be divided into the merry and the serious, who, both of them, make a very good figure in the species, so long as they keep their respective humours from degenerating into the neighbouring extreme; there being a natural tendency in the one to a melancholy *moroseness*, and in the other to a fantastic levity. *Addison.*

Without these precautions, the man degenerates into a cynick, the woman into a coquette; the man grows sullen and *morose*, the woman impertinent.

Spectator.

Take care that no sourness and *moroseness* mingle with our serious frame of mind. *Nelson.*

Too many are as *morosely* positive in their age, as they were childishly so in their youth.

Government of the Tongue.

Learn good humour, never to oppose without just reason; abate some degree of pride and *moroseness*.

Watts.

Some have deserved censure for a *morose* and affected taciturnity, and others have made speeches, though they had nothing to say. *Id. on the Mind.*

A poet, that fails in writing, becomes often a *morose* critic. The weak and insipid white wine makes at length excellent vinegar. *Shenstone.*

MOROXYLIC ACID, in chemistry, derives its name from Gr. *μορον* a mulberry, and *ζηλον* wood, because found in the wood of that tree. In the botanic garden of Palermo, Mr. Thompson found a curious saline substance on the trunk of a white mulberry tree. It appeared as a coating on the surface of the bark in little granulous drops of a yellowish and blackish-brown color, and had likewise penetrated its substance. Klaproth, who analysed it, found that its taste was somewhat like that of succinic acid; on burning coals, it swelled up a little, emitted a pungent vapor scarcely visible to the eye, and left a slight earthy residuum. 600 grains of the bark loaded with it were lixiviated with water, and afforded 320 grains of a light salt, resembling in color a light wood, and composed of short needles united in radii. It was not deliquescent; and, though the crystals did not form till the solution was greatly condensed by evaporation, it is not very soluble, since 1000 parts of water dissolve but 35 with heat and 15 cold.

This salt was found to be a compound of lime and a peculiar vegetable acid, with some extractive matter. To obtain the acid separate, Klaproth decomposed the calcareous salt by acetate of lead, and separated the lead by sulphuric acid. He likewise decomposed it directly by sulphuric acid. The product was still more like succinic acid in taste; was not deliquescent; easily dissolved both in water and alcohol; and did not precipitate the metallic solutions, as it did in combination with lime. Twenty grains being slightly heated, in a small glass retort, a number of drops of an acid liquor first came over; next a concrete salt arose, that adhered flat against the top and part of the neck of the retort in the form of prismatic crystals, colorless and transparent; and a coally residuum remained. The acid was then washed out, and crystallised by spontaneous evaporation.—Thus sublimation appears to be the best mode of purifying the salt, but it adhered too strongly to the lime to be separated

from it directly by heat without being decomposed. See CHEMISTRY, Index.

MORPETH, a handsome borough and market town of Northumberland, fifteen miles from Newcastle, seated on the Cammas, with a bridge over the Wansbeck. It is an ancient borough by prescription, and had once an abbey and a castle, now in ruins, situated about a quarter of a mile to the south of the town and river Wansbeck, on an eminence which overlooks them both. The market place is conveniently situated near the centre of the town; and an elegant town-house was built by the Carlisle family in 1714, in which the quarter-sessions are held for the county. It is built with hewn stone, with a piazza. The church being a quarter of a mile from the town, a tower containing a good ring of bells stands near the market place. Near the bridge is the county gaol, a modern structure. Morpeth has a free grammar school, a chapel near the river, on the site of a chantry that was granted for the support of the school, which was part of the old structure, and an hospital. In 1215 the townsmen burnt their town out of hatred to king John, that he might find no shelter in it. It has a good market on Saturday for corn, cattle, and provisions; and another on Wednesday, extremely well supplied with live cattle. It is a post town and thoroughfare, with many good inns, plenty of fish, and several mills. The earl of Carlisle's steward holds a court twice a-year, one on Monday after Michaelmas, when four persons are chosen by the free burgesses, who are about 107, and presented to the steward, who names two of them to the bailiffs, who, with seven aldermen, are its governors for the year following. It sends one member to parliament. It lies ninety-one miles south of Edinburgh, and 292 north by west of London.

MORPHEUS, in the mythology, the god of sleep, or, according to others, one of the ministers of Somnus. He caused sleepiness, and represented the forms of dreams. Ovid styles him the kindest of the deities; and he is usually described in a recumbent posture, and crowned with poppies.

MORPHIA, in chemistry, the alkaline narcotic principle of opium first obtained pure by M. Sertürner in 1817.

Two somewhat different processes for procuring it have been given by M. Robiquet and M. Choulant.

According to the former, a concentrated infusion of opium is to be boiled with a small quantity of common magnesia for a quarter of an hour. A considerable quantity of a grayish deposit falls. This is to be washed on a filter with cold water, and, when dry, acted on by weak alcohol for some time, at a temperature beneath ebullition. In this way very little morphia, but a great quantity of coloring matter is separated. The matter is then to be drained on a filter, washed with a little cold alcohol, and afterwards boiled with a large quantity of highly rectified alcohol. This liquid being filtered while hot, on cooling it deposits the morphia in crystals, and very little colored. The solution in alcohol, and crystallisation, being repeated two or three times, colorless morphia is obtained.

The theory of this process is the following:— Opium contains a meconiate of morphia. The magnesia combines with the meconic acid, and the morphia is displaced.

Choulant directs us to concentrate a dilute watery infusion of opium, and leave it at rest till it spontaneously let fall its sulphate of lime in minute crystals. Evaporate to dryness; redissolve in a little water, and throw down any remaining lime and sulphuric acid, by the cautious addition, first of oxalate of ammonia, and then of muriate of barytes. Dilute the liquid with a large body of water, and add caustic ammonia to it, as long as any precipitate falls. Dissolve this in vinegar, and throw it down again with ammonia. Digest on the precipitate about twice its weight of sulphuric ether, and throw the whole upon a filter. The dry powder is to be digested three times in caustic ammonia, and as often in cold alcohol. The remaining powder being dissolved in twelve ounces of boiling alcohol, and the filtered hot solution being set aside for eighteen hours, deposits colorless transparent crystals consisting of double pyramids. By concentrating the supernatant alcoholic solution, more crystals may be obtained.

Dr. Thompson directs us to pour caustic ammonia into a strong infusion of opium, and to separate the brownish-white precipitate by the filter; to evaporate the infusion to about one-sixth of its volume, and mix the concentrated liquid with more ammonia. A new deposit of impure morphia is obtained. Let the whole of the deposits be collected on the filter, and washed with cold water. When well drained, pour a little alcohol on it, and let the alcoholic liquid pass through the filter. It will carry off a good deal of the coloring matter, and very little of the morphia. 'Dissolve the impure morphia, thus obtained, in acetic acid; and mix the solution, which has a very deep brown color, with a sufficient quantity of ivory black. This mixture is to be frequently agitated for twenty-four hours, and then thrown on the filter. The liquid passes through quite colorless. If ammonia be now dropped into it, pure morphia falls in the state of a white powder. If we dissolve this precipitate in alcohol, and evaporate that liquid slowly, we obtain the morphia in pretty regular crystals. It is perfectly white, has a pearly lustre, is destitute of smell, but has an intensely bitter taste. Dr. Thompson states the constituents of morphia as follows:—

	Or nearly in volumes.	
Hydrogen . . .	0.0555	18
Carbon . . .	0.4528	24
Oxygen . . .	0.4917	10
	<hr/>	
	1.0000	

Hence the weight of an integrant particle of morphia is 40.25.

M. Choulant says, it crystallises in double four-sided pyramids, whose bases are squares or rectangles. Sometimes in prisms with trapezoidal bases.

It dissolves in eighty-two times its weight of boiling water, and the solution on cooling deposits regular, colorless, transparent crystals. It is

soluble in thirty-six times its weight of boiling alcohol, and in forty-two times its weight of cold alcohol, of 0·92. It dissolves in eight times its weight of sulphuric ether. All these solutions change the infusion of Brasil-wood to violet, and the tincture of rhubarb to brown. The saturated alcoholic and ethereal solutions, when rubbed on the skin, leave a red mark.

Sulphate of morphia crystallises in prisms which dissolve in twice their weight of distilled water. They are composed of,

Acid . . .	22	5·00
Morphia . . .	40	9·09
Water . . .	38	
	<hr/>	100

Nitrate of morphia yields needle-form crystals, in stars, which are soluble in one and half time their weight of distilled water. Its constituents are,

Acid . . .	20	6·75
Morphia . . .	36	12·15
Water . . .	44	
	<hr/>	100

Muriate of morphia is in feather-shaped crystals, and needles. It is soluble in ten and a half times its weight of distilled water. Its constituents are,

Acid . . .	35	4·625
Morphia . . .	41	5·132
Water . . .	24	
	<hr/>	100

The acetate crystallises in needles; the tartrate in prisms; and the carbonate in short prisms. Dr. Thompson states the ultimate constituents of morphia to be,

Hydrogen . . .	0·0555
Carbon . . .	0·4528
Oxygen . . .	0·4917
	<hr/>
	1·0000

from the analysis of one grain, by ignited peroxide of copper. He imagines the atom to be either 40·25, or 20·125. The former number approaches to that of Pelletier and Caventou; the latter is much greater than any of Choulant's deduced from the above saline combinations, the mean of which gives about 8·25.

Morphia acts with great energy on the animal economy. A grain and a half, taken at three different times, produced such violent symptoms upon three young men of seventeen years of age that Sertürner was alarmed lest the consequences should have proved fatal.

Morphia, according to its discoverer, melts in a gentle heat; and in that state has very much the appearance of melted sulphur. On cooling, it again crystallises. It burns easily; and, when heated in close vessels, leaves a solid resinous black matter, having a peculiar smell. See CHEMISTRY, Index.

MORRIS, *n. s.* } Span. *moresco* (*danceol mor-*
MORRIS' DANCE. } *resco*); Port. and Ital. *mo-*
resca; Belg. *moorisk*; Fr. *moresque*. A dance in which bells are gingled, or staves or swords

clashed, which was practised by the Moors, and probably a kind of Pyrrhick or military dance.

One in his catalogue of a feigned library, sets down this title of a book, the *morris-dance* of heretics.

Bacon.

The queen stood in some doubt of a Spanish invasion, though it proved but a *morris-dance* upon our waves.

Wotton.

I took delight in pieces that shewed a country village, *morrice-dancing*, and peasants together by the ears.

Peacham.

The sounds and seas, with all their finny drove,
Now to the moon in wavering *morrice* move.

Milton.

There went about the country a set of *morrice-dancers*, composed of ten men, who danced a maid marian and a tabor and pipe.

Temple.

Four reapers danced a *morris* to oaten pipes.

Spectator.

MORRIS DANCE. See MORESQUE DANCES. MORRIS, a county of New Jersey, bounded north by Bergen county, east by Essex county, south by Somerset and Hunterdon counties, and north-west by Sussex county. Chief town, Morristown.

MOR'PHEW, *n. s.* Fr. *morphée*; Ital. *morfea*; low Lat. *morphæa*. A scurf on the face.

The shape is changed with disease or casualty of age; while the man is the same; the face that was fair is now distorted and *morpheued*; the hair that was yellow or black, turned white or vanished.

Bp. Hall.

MORRISTOWN, a post town, the capital of Morris county New Jersey; eighteen miles W. N. W. of Newark, and twenty-eight W. N. W. of New York. It is a pleasant and flourishing place, containing a court-house, a jail, a bank, an academy, and two houses of public worship, one for Presbyterians, and one for Baptists. A newspaper is published here.

MOR'ROW, *n. s.* Saxon *morzen*; Belgic *morghen*; Teut. *morghen*. The original meaning seems to have been morning. To-morrow as the Fr. *demain*, is of similar origin and significance; the day next after the present.

So I caste out fendis and I make perfightly heel
this, to day and *to-morrowe*; and the thurde day I
am endid.

Wiclif. Luk 13.

'The Lord did that thing on the *morrow*.

Exod. ix. 6.

I would not buy
Their mercy at the price of one fair word;
To have it with saying, good *morrow*.

Shakspeare.

Thou
Canst pluck night from me, but not lend a *morrow*.

Id.

Peace, good reader, do not weep,
Peace, the lovers are asleep;
Let them sleep, let them sleep on.
Till this stormy night be gone,
And the eternal *morrow* dawn,
Then the curtains will be drawn.

Crasnaw.

To-morrow you will live, you always cry,
In what far country does this *morrow* lie!
That 'tis so mighty long ere it arrive:
Beyond the Indies does this *morrow* live?
'Tis so far-fetched this *morrow*, that I fear
'Twill be both very old, and very dear:
To-morrow will I live, the fool does say,
To day itself's too late, the wise lived yesterday.

Cowley

Our yesterday's to-morrow now is gone,
And still a new to-morrow does come on.
We by to-morrows draw out all our store,
Till the exhausted well can yield no more. *Id.*

To-morrow, didst thou say?

Me thought I heard Horatio say to-morrow.
Go to—I will not hear of it—to-morrow!
'Tis a sharper, who stakes his penury
Against thy plenty—who takes thy ready cash,
And pays thee nought but wishes, hopes, and pro-
mises,

The currency of idiots. *Cotton.*
To-morrow is the time when all is to be rectified.
Spectator.

To-morrow comes; 'tis noon; 'tis night:
This day like all the former flies;
Yet on he runs to seek delight
To-morrow, till to night he dies. *Prior.*

Sweet fa's the eve on Craigie-burn,
And blithe awakes the morrow,
But a' the pride o' spring's return
Can yield me nocht but sorrow. *Burns.*

Beware of desperate steps. The darkest day,
Live till to-morrow, will have passed away.
Cowper.

MORS, or MORSOR, the largest island of the gulf of Lymfiord, in the north of Jutland, lies in lat. 56° 41' N. It contains 136 square miles, and a population of about 7800. The surface is in general level, except on the south side; and in several places the sea has formed subterranean excavations, over which the ground has given way. The climate is variable; but the soil is very fertile, and two-thirds of the whole island is under cultivation. The rest is moor; but will eventually, it is thought, be converted into meadow or arable land. The inhabitants speak a dialect of their own; and they are a simple contented race. From Nykiobing, the only town, there is a large export of corn.

Mors, Death, one of the infernal deities, born of Night without a father. She was worshipped by the ancients with great solemnity. She was not represented as an actually existing power, but as an imaginary being. Euripides introduces her in one of his tragedies on the stage. The moderns represent her as a skeleton armed with a scythe and a scymitar.

MORSCHANSE, a town of European Russia, in the province of Tambov, on the river Zna. It has manufactures of paper, linen, and canvas; and some fulling and saw mills. The Zna communicating with the Wolga, the town has the command of a very extensive water carriage, and a brisk traffic in corn. Population 4200. Seventy-eight miles north of Tambov.

MORSE, *n. s.* Goth. *mar*, the sea, and *ors*, a horse (Thomson). The phoca or sea-horse.

That which is commonly called a sea-horse is properly called a *morse*, and makes not out that shape.
Browne.

It seems to have been a tusk of the *morse* or waltron, called by some the sea-horse. *Woodward.*

MORSEL, *n. s.* Fr. *morceau*, *morcella*; Latin *morsus*, a bite. A mouthful; small piece or quantity; a meal.

And aftir the *mossel*, thanne Satanus entride into him, and Jesus seith to him, that thing that thou doist, do thou swithe. *Wiclif. Jan. 13.*

I dwell wita hem that proude y be,
And ful of wiles and subtilte,
And faine him pore, and him self fiden
With gode *morcils* delicious,
And drinkin gode wine precious.

Chaucer. Cant. Tales.

Yet camest thou to a *morsel* of this feas
Having fully dined before.

Shakspeare. Coriolanus.

And me his parent would full soon devour
For want of other prey, but knows that I
Should prove a bitter *morsel*, and his bane.

Milton.

On these herbs, and fruits, and flowers,
Feed first; on each beast next, and fish and fowl,—
No homely *morsels*! *Id. Paradise Lost.*

Of the *morsels* of native and pure gold, he had seen
some weighed many pounds. *Boyle.*

He boils the flesh,
And lays the mangled *morsels* in a dish.
Dryden.

A dog crossing a river with a *morsel* of flesh in his mouth, saw, as he thought, another dog under the water, upon the very same adventure. *L'Estrange.*

A wretch is prisoner made,
Whose flesh, torn off by lumps, the ravenous foe
In *morsels* cut to make it farther go.

Tate's Juvenal.

Every *morsel*, to a satisfied hunger, is only a new
labour to a tired digestion. *South's Sermons.*

A letter to the keeper of the lion requested that it
may be the first *morsel* put into his mouth.

Addison.

Hard is the fate of the infirm and poor!
Here, as I craved a *morsel* of their bread,
A pampered menial drove me from the door,
To seek a shelter in a humbler shed. *Moss.*

MORT, *n. s.* Fr. *mort*. A tune in hunting
sounded at the death of the game.

To be making practised smiles,
As in a looking-glass, and to sigh as 'twere
The *mort* o' th' deer; oh that is entertainment
My bosom likes not. *Shakspeare. Winter's Tale.*

MORTAGNE, a town of Normandy, France, in the department of the Orne. It is situated on a hill near the river Chyppe; and contains 5800 inhabitants, who manufacture linen, thread, and leather. A great deal of cyder is made here. The great disadvantage of the place is the want of good water. Fifteen miles E. S. E. of Seez and eighteen E. N. E. of Alençon.

MORTAL, *adj.* & *n. s.* Fr. *mortel*; Lat. *MORTAL'ITY*, } *mortalis*. Liable or
MORTALLY, *adv.* } subject to death;

bringing, or producing death; deadly; and, by a usage that should teach a good lesson, human; pertaining to man; man; mortality is subjection or liability to death; power or frequency of death; death; humanity, or human nature: mortally means fatally; irrecoverably; to death.

This corruptible must put on incorruption, and this mortal must put on immortality. *1 Cor. xv. 53.*

Who for each fickle fear from virtue shrinks,
Shall in this world enjoy no earthly thing,
No mortal man the cup of surety drinks;
But let us pick our good from out much bad,
That so our little world may know its king.

Sir P. Sidney.

So from immortal race he does proceed,
That mortal hands may not withstand his might ;
Doe for his derring foe, and bloody deed ;
For all in blood and spoil is his delight.

Faerie Queene.

Though every sin of itself be mortal, yet all are
not equally mortal ; but some more, some less.

Perkins.

I beg mortality,
Ratner than life preserved with infamy.

Shakespeare.

Mortality and mercy in Vienna
Live in thy tongue and heart. *Id.*

Nature does require
Her times of preservation, which, perforce,
I her frail son amongst my brethren mortal
Must give my attendance to. *Id. Henry VIII.*

Come, all you spirits

That tend on mortal thoughts, unsex me here,
And fill me from the crown to th' toe, top full
Of cruelty. *Id. Macbeth.*

They met me in the day of success ; and I have
learned by the perfectest report, they have more in
them than mortal knowledge. *Id.*

Macbeth

Shall live the lease of nature, pay his breath
To time and mortal custom. *Id.*

The mortalest poisons practised by the West In-
dians, have some mixture of the blood, fat, or flesh
of man. *Bacon.*

When I saw her die,
I then did think on your mortality. *Carew.*
Heavenly powers, where shall we find such love ?
Which of ye will be mortal to redeem
Man's mortal crime ; and just, the unjust to save ?
Milton.

The fruit
Of that forbidden tree, whose mortal taste
Brought death into the world, and all our woe.
Id.

The day thou eatest thereof, my sole command
Transgress, inevitably thou shalt die ;
From that day mortal : and this happy state
Shalt lose. *Id. Paradise Lost.*

The voice of God
To mortal ear is dreadful ; they beseech
That Moses might report to them his will,
And terror cease. *Id.*

Gladly would I meet
Mortality my sentence. *Id.*
The rise of keeping those accounts first began in
the year 1592, being a time of great mortality.

Graunt.

Success, the mark no mortal wit,
Or surest hand can always hit. *Butler.*
Some circumstances have been great discouragers
of trade, and others are absolutely mortal to it.

Temple.

Hope not, base man ! unquestioned hence to go,
For I am Palamon, thy mortal foe. *Dryden.*

A single vision so transports them, that it makes
up the happiness of their lives ; mortality cannot
bear it often. *Id.*

In the battle of Landen you were not only danger-
ously, but, in all appearance, mortally wounded. *Id.*

No one enjoyment but is liable to be lost by ten
thousand accidents, out of all mortal power to pre-
vent. *South's Sermons.*

I can behold no mortal now ;
For what's an eye without a brow. *Prior.*
Warn poor mortals left behind. *Tickel.*
Safe in the hand of one disposing power,
Or in the natal, or the mortal hour. *Pope.*

Take these tears, mortality's relief,
And, till we share your joys, forgive our grief. *Id.*

I point out mistakes in life and religion, that we
might guard against the springs of error, guilt, and
sorrow, which surround us in every state of mortality.
Watts's Logick.

All men think all men mortal but themselves.

Young.

Preposterous madmen, void of fear or shame,
Lay their crimes bare to these chaste eyes of Heaven,
Yet shrink and shudder at a mortal's sight. *Id.*

And for this—

A being of the race thou dost despise,
The order which thine own would rise above,
Mingling with us and ours, thou dost forego
The gifts of our great knowledge, and shrink'st back
To recreate mortality. *Byron.*

MORTAL, *adj.* } Sax. mæpð ; Isl. morgt ;
MORTALLY, *adv.* } Goth. margt, murth, a heap.
Great ; extremely ; extremely. Obsolete in good
writing, but retained in the vulgar phrase, ' a
mortal deal.'

The birds were in a mortal apprehension of the
beetles, till the sparrow reasoned them into under-
standing. *L'Étrange.*

Adrian mortally envied poets, painters, and arti-
ficers, in works wherein he had a vein to excel.

Bacon's Essays.

Know all, who would pretend to my good grace,
I mortally dislike a damning face. *Granville.*

MORTALITY, BILLS OF, are accounts or regis-
ters specifying the numbers born, married, and
buried, in any parish, town, or district. In
general they contain only these numbers ; and,
even when thus limited, are of great use, by
showing the degrees of healthiness and prolific-
ness, and the progress of population, in the places
where they are kept. It is therefore much to be
wished that such accounts had been always cor-
rectly kept in every kingdom, and regularly pub-
lished at the end of every year. We should
then have had under our inspection the compara-
tive strength of every kingdom, as far as it de-
pends on the number of inhabitants, and its
increase or decrease at different periods. But
such accounts are rendered more useful, when
they include the ages of the dead, and the dis-
tempers of which they have died. In this case
they convey some of the most important instruc-
tions, by furnishing us with the means of ascer-
taining the law which governs the waste of human
life, the values of annuities dependent on the
continuance of any lives, or any survivorships
between them, and the favorableness or unfavor-
ableness of different situations to the duration of
human life. There are but few registers of this
kind ; nor has this subject, though so interesting
to mankind, ever engaged much attention till
lately. The first bills containing the ages of the
dead were those for the town of Breslaw in
Silesia. It is well known what use has been
made of these by Dr. Halley, and after him by
De Moivre. A table of the probabilities of the
duration of human life at every age, deduced from
them by Dr. Halley, was published in the Philo-
sophical Transactions (see the Abridgment, vol.
iii. p. 669), and is the first table of this sort that
was published. Since the publication of this
table, similar bills have been established in a

few towns of this kingdom; and particularly in London, in 1728, and at Northampton, in 1735.

At Northampton, though more males are born than females; and nearly the same number die, yet the number of living females appeared, by an account taken in 1746, to be greater than the number of males, in the proportion of 2301 to 1770, or thirty-nine to thirty. At Berlin it appeared, from an accurate account which was taken of the inhabitants in 1747, that the number of female citizens exceeded the number of male citizens in the proportion of 459 to 391. And yet, out of this smaller number of males, more had died for twenty years preceding 1751, in the proportion of nineteen to seventeen. At Edinburgh, in 1793, the number of females was to the number of males as forty-four to thirty-seven. But the females that died annually were to the males in no higher proportion than three and one-sixth to three. Whoever will take the trouble to examine the accounts in Phil. Trans. Abr., vol. vii., part iv., p. 46, &c., will find, that though in the towns there enumerated, the proportion of males and females born is no higher than nineteen to eighteen, yet the proportion of boys and girls that die is eight to seven; and that, in particular, the still-born and chrysom males are to the still-born and chrysom females as three to two. In thirty-nine parishes of the district of Vaud and Switzerland, the number of males that died during ten years before 1766 was 8170; of females 8167; of whom the numbers that died under one year of age were 1817 males and 1305 females; and, under ten years of age, 3099 males and 2598 females. In the beginning of life, therefore, and before any emigrations can take place, the rate of mortality among males appears to be greater than among females. And this is rendered yet more certain by the following accounts. At Vevey, in the district of Vaud, there died in twenty years, ended at 1764, in the first month after birth, of males 135 to eighty-nine females; and in the first year 225 to 162. It appears from a table given by Susmilch, in his *Gottliche Ordnung*, vol. ii. p. 317, that in Berlin 203 males die in the first month, and but 168 females; and in the first year 489 to 395; and also, from a table of Struycs, that in Holland 396 males die in the first year to 306 females. The authorities for these facts, and much more on this subject, may be found in the fourth essay in Dr. Price's *Treatise on Reversionary Payments*, and in the supplement. We shall here only add the following table, taken from a memoir of Mr. Wargentin's, published in the collection of the *Memoirs of the Royal Academy of Sciences at Stockholm*, printed at Paris in 1772. In all Sweden for nine years, ended in 1763, the proportion of females to males that died out of a given number living, was,

30 35 . . .	1000 to	993
35 40 . . .	—	1159
40 45 . . .	—	1115
45 50 . . .	—	1340
50 55 . . .	—	1339
55 60 . . .	—	1292
60 65 . . .	—	1115
65 70 . . .	—	1080
70 80 . . .	—	1022
80 90 . . .	—	1046
Above 90 . . .	—	1044

Registers of mortality, on an improved plan, were established in 1772 at Chester, and also, in 1773, at Warrington in Lancashire; and they are so comprehensive and correct, that there is reason to expect they will afford much instruction on the subject of human mortality, and the values of lives. But the country hitherto most distinguished in this respect is Sweden; for in that kingdom exact accounts are taken of the births, marriages, and burials, and of the numbers of both sexes that die at all ages in every town and district, and also, at the end of every period of five years, of the numbers living at every age: and at Stockholm a society is established, whose business it is to superintend and regulate the enumerations, and to collect from the different parts of the kingdom the registers, in order to digest them into tables of observation. These regulations were begun in 1755; and tables, containing the result of them from 1755 to 1763, have been published in Mr. Wargentin's memoir just referred to; and the most material parts of them may be found in an essay by Dr. Price on the Difference between the Duration of Human Life in Towns and in Country Parishes, printed in the 65th vol. of the *Phil. Trans.*, part ii.

In the fourth essay in Dr. Price's *Treatise on Reversionary Payments and Life Annuities* the following account is given of his principles of observation on the registers of mortality; and of the proper method of forming tables so as to render them just representations of the number of inhabitants, and the probabilities of the duration of human life in a town or country. In every place which just supports itself in the number of its inhabitants, without any recruits from other places, or where, for a course of years, there has been no increase or decrease, the number of persons dying every year at any particular age, and above it, must be equal to the number of the living at that age. The number, for example, dying every year at all ages, from the beginning to the utmost extremity of life, must, in such a situation, be just equal to the whole number born every year. And, for the same reason, the number dying every year at one year of age and upwards, at two years of age and upwards, and so on, must be equal to the numbers that attain to those ages every year; or to the numbers of the living at those ages. It is obvious, that, unless this happens, the number of inhabitants cannot remain the same. If the former number is greater than the latter, the inhabitants must decrease; if less, they must increase. From this observation it follows, that in town or country, where there is no increase or decrease, bills of mortality which give the ages at which

Under the age of one year	1000 to	1099
From 1 to 3 years of age . . .	1000 to	1022
3 5	—	1042
5 10	—	1074
10 15	—	1080
15 20	—	1097
20 25	—	1283
25 30	—	1161

all die, will show the exact number of inhabitants, and also the exact law according to which human life wastes in that town or country. To find the number of inhabitants, the mean numbers dying annually at every particular age and upwards must be taken as given by the bills, and placed under one another in the order of the second column of the following tables. These numbers will, it has appeared, be the numbers of the living at one, two, three, &c., years of age; and consequently the sum diminished by half the number born annually will be the whole number of inhabitants. This subtraction is necessary for the following reason: In a table formed in the manner here directed it is supposed that the numbers in the second column are all living together at the beginning of every year. Thus the number in the second column opposite to 0 in the first column, the table supposes to be all just born together on the first day of the year. The number, likewise, opposite to 1, it supposes to attain to one year of age just at the same time that the former number is born. And the like is true of every number in the second column. During the course of the year, as many will die at all ages as were born at the beginning of the year; and consequently there will be an excess of the number alive at the beginning of the year above the number alive at the end of the year, equal to the whole number of the annual births; and the true number constantly alive together is the arithmetical mean between these two numbers; or, agreeably to the rule here given, the sum of the numbers in the second column of the table lessened by half the number of annual births. In such a series of numbers, the excess of each number above that which immediately follows it will be the number dying every year out of the particular number alive at the beginning of the year; and these excesses set down regularly, as in the third column of the table to which we have referred, will show the different rates at which human life wastes through all its different periods, and the different probabilities of life at all particular ages. What has been now said goes on the supposition that the place whose bills of mortality are given supports itself, by procreation only, in the number of its inhabitants. In towns this very seldom happens, on account of the luxury and debauchery which generally prevail in them. They are, therefore, commonly kept up by a constant accession of strangers, who remove to them from country parishes and villages. In these circumstances, in order to find the true number of inhabitants, and probabilities of life, from bills of mortality containing an account of the ages at which all die, it is necessary that the proportion of the annual births to the annual settlers should be known, and also the period of life at which the latter remove. Both these particulars may be discovered by the following method:—If, for a course of years, there has been no sensible increase or decrease in a place, the number of annual settlers will be equal to the excess of the annual burials above the annual births. If there is an increase, it will be greater than this excess. If there is a decrease, it will be less. The period of life at which these settlers remove will appear in the

bills by an increase in the number of deaths a that period and beyond it. Thus in the London bills the number of deaths between twenty and thirty is generally above double, and between thirty and forty nearly triple, the number of deaths between ten and twenty; and the true account of this is, that, from the age of eighteen or twenty to thirty-five or fifty, there is an afflux of people every year to London from the country, which occasions a great increase in the number of inhabitants at these ages; and consequently raises the deaths for all ages above twenty considerably above their due proportion, when compared with the number of deaths before twenty. This is observable in all the bills of mortality for towns with which we are acquainted, not excepting even the Breslaw bills.

Dr. Halley takes notice that these bills gave the number of deaths between ten and twenty too small. This he considered as an irregularity in them owing to chance; and therefore, in forming his table of observations, he took the liberty so far to correct it as to render the proportion of those who die, to the living in this division of life, nearly the same with the proportion which, he says, he had been informed die annually of the young lads in Christ Church Hospital. But the truth is, that this irregularity in the bills was derived from the cause we have just assigned. During the five years for which the Breslaw bills are given by Dr. Halley, the births did indeed a little exceed the burials; but it appears that this was the effect of some peculiar causes that happened to operate just at that time: for during a complete century, from 1633 to 1734, the annual medium of births was 1089, and of burials 1256. This town, therefore, must have been all along kept up by a number of yearly recruits from other places, equal to about a seventh part of the yearly births. It appears from the account in the *Phil. Trans. Abr.*, vol. vii. No. 380, p. 46, &c., that from 1717 to 1725 the annual medium of births at Breslaw was 1252, of burials 1507; and that the greatest part of the births died under ten years of age. From a table in *Susmilch's works*, vol. i. p. 38, it appears that in reality the greater part of all that die in this town are children under five years of age. What has been now observed, concerning the period of life at which people remove from the country to settle in towns, would appear sufficiently probable were there no such evidence for it as has been mentioned; for it might be well reckoned that these people in general must be single persons in the beginning of mature life, who, not having yet obtained settlements in the places where they were born, migrate to towns in quest of employments. It is proper next to endeavour to explain distinctly the effect which these accessions to towns must have on tables of observation formed from their bills of mortality. This is a subject proper to be insisted on, because mistakes have been committed about it; and because also the discussion of it is necessary, to show how near to truth the values of lives come as deduced from such tables. The following general rule may be given on this subject. If a place has for a course of years been maintained in a state nearly stationary, as to number of inha-

hantants, by recruits coming in every year, to prevent the decrease that would arise from the excess of burials above the births, a table formed on the principle, 'that the number dying annually, after every particular age, is equal to the number living at that age,' will give the number of inhabitants, and the probabilities of life, too great, for all ages preceding that at which the recruits cease; and after this it will give them right. If the accessions are so great as to cause an increase in the place, such a table will give the number of inhabitants and the probabilities of life too little after the age at which the accessions cease: and too great if there is a decrease. Before that age it will in both cases give them too great; but most considerably so in the former case, or when there is an increase. Agreeably to these observations, if a place increases, not in consequence of accessions from other places, but of a constant excess of the births above the deaths, a table constructed on the principle that has been mentioned will give the probabilities of life too low through the whole extent of life; because, in such circumstances, the number of deaths in the first stages of life must be too great, in comparison of the number of deaths in the later stages; and more or less so as the increase is more or less rapid. The contrary in all respects takes place where there is a decrease arising from the excess of the deaths above the births. For example, let us suppose that 244 of those born in a town attain annually to twenty years of age, and that 250 more, all likewise twenty years of age, come into it annually from other places, in consequence of which it has for a course of years been just maintained in the number of its inhabitants, without any sensible increase or decrease; in these circumstances, the number of the living in the town of the age of twenty will be always 244 natives and 250 settlers, or 494 in all; and since these are supposed all to die in the town, and no more recruits are supposed to come in, 494 will be likewise the number dying annually at twenty and upwards. In the same manner it will appear, on these suppositions, that the number of the living, at every age subsequent to twenty, will be equal to the number dying annually at that age and above it; and consequently that the number of inhabitants and the decrements of life, for every such age, will be given exactly by the table. But, for all ages before twenty, they will be given much too great. For let 280 of all born in the town reach ten; in this case 280 will be the true number of the living in the town at the age of ten; and, the recruits not coming in till twenty, the number given by the bills as dying between ten and twenty will be the true number dying annually of the living in this division of life. Let the number be thirty-six; and it will follow that the table ought to make the numbers of the living at the ages between ten and twenty, a series of decreasing means between 280 and (280 diminished by thirty-six, or) 244. But, in forming the table on the principle just mentioned, 250 (the number above twenty dying annually in the town who were not born in it) will be added to each number in this series; and therefore the table will give the numbers of the living, and the probabilities of

life in this division of life, almost twice as great as they really are. This observation, it is manifest, may be applied to all the ages under twenty. Such a table will give the number of inhabitants and the probabilities of life equally wrong before twenty, whether the recruits all come in at twenty, agreeably to the supposition just made, or only begin then to come in. In this last case the table will give the number of inhabitants and probabilities of life too great throughout the whole extent of life, if the recruits come in at all ages above twenty. But, if they cease at any particular age, it will give them right only from that age; and before, it will err all along on the side of excess; but less considerably between twenty and that age than before twenty. For example: if, of the 250 supposed to come in at twenty, only 150 then come in, and the rest at thirty; the number of the living will be given 100 too high at every age between twenty and thirty; but, as just shown, they will be given 250 too high at every age before twenty. In general, therefore, the number of the living at any particular age must be given by the supposed table as many too great as there are annual settlers after that age; and if these settlers come in at all ages indiscriminately, during any certain interval of life, the number of inhabitants and the probabilities of life will be continually growing less and less wrong the nearer any age is to the end of that interval. These observations prove, that tables of observation formed in the common way, from bills of mortality for places where there is an excess of the burials above the births, must be erroneous for a great part of the duration of life, in proportion to the degree of that excess. They show likewise at what parts of life the errors in such tables are most considerable, and how they may be in a great measure corrected. All this shall be exemplified in the particular case of London. The number of deaths between the ages of ten and twenty is always so small in the London bills, that it seems certain few recruits come to London under twenty, or at least not so many as before this age are sent out for education to schools and universities. After twenty, great numbers come in till thirty, and some perhaps till forty or fifty; but, at every age after fifty, it is probable that more retire from London than come to it. The London tables of observation, therefore, being formed on the principle already mentioned, cannot give the probabilities of life right till forty. Between thirty and forty they must be a little too high; but more so between twenty and thirty, and most of all so before twenty. It follows also that these tables must give the number of inhabitants in London much too great. The first of the following tables is formed in the manner here explained, from the London bills for ten years, from 1759 to 1768, and adapted to 1000 born as a radix. The sum of the numbers in the second column, diminished by half the number born, is 25,757. According to this table, then, for every 1000 deaths in London there are 25 $\frac{3}{4}$ as many inhabitants; or, in other words, the expectation of a child just born is 25 $\frac{3}{4}$; and the inhabitants are to the annual burials as 25 $\frac{3}{4}$ to one. But it has appeared, that the numbers in the second column,

being given on the supposition that all those who die in London were born there, must be too great; and we have hence a demonstration, that the probabilities of life are given in the common tables of London observations too high for at least the first thirty years of life; and also that the number of inhabitants in London must be less than $25\frac{1}{2}$ multiplied by the annual burials. The common tables, therefore, of London observations undoubtedly need correction, as Mr. Simpson suggested, and in some measure performed, though too imperfectly, and without going upon any fixed principles, or showing particularly how tables of observation ought to be formed, and how far in different circumstances, and at different ages, they are to be depended on. The way of doing this, and in general the right method of forming genuine tables of observation for towns, may be learned from the following rule:—From the sum of all that die annually, after any given age, subtract the number of annual settlers after that age; and the remainder will be the number of the living at the given time. If, therefore, the number of annual settlers in a town at every age could be ascertained, a perfect table of observations might be formed for that town from bills of mortality, containing an account of the ages at which all die in it. But no more can be learned in this instance, from any bills, than the whole number of annual settlers, and the general division of life in which they enter. This, however, may be sufficient to enable us to form tables that shall be tolerably exact. For instance, suppose the annual deaths in a town, which has not increased or decreased, to have been for many years in the proportion of four to three to the annual births; it will hence follow, that $\frac{1}{4}$ of the persons who die in such a town are settlers, or emigrants from other places, and not natives; and the sudden increase in the deaths after twenty will also show, agreeably to what was before observed, that they enter after this age. In forming, therefore, a table for such a town, a quarter of all that die at all ages throughout the whole extent of life must be deducted from the sum of all that die after every given age before twenty; and the remainder will be the true number living at that given age. And if at twenty, and every age above it, this deduction is omitted, or the number of the living at every such age is taken the same with the sum of all that die after it, the result will be (supposing most of the settlers to come in before thirty, and all before 40) a table exact till twenty; too high between twenty and thirty; but nearly right for some years before forty; and after forty exact again. Such a table, it is evident, will be the same with the table last described at all ages above twenty, and different from it only under twenty. It is evident also, that, on account of its giving the probabilities of life too great for some years after twenty, the number of inhabitants deducted from it may be depended on as somewhat greater than the truth; and more or less so as the annual recruits enter in general later or sooner after twenty. Let us now consider what the result of these remarks will be, when applied particularly to the London bills. It must be here first observed that at least one quarter of all that

die in London are supplies or settlers from the country, and not natives. The medium of annual burials for ten years, from 1759 to 1768, was 22,956; of births 15,710. The excess is 7246, or near a third of the burials. The same excess during ten years before 1750 was 10,500 or near half the burials. London was then decreasing. For the last twelve or fifteen years it has been increasing. This excess, therefore, agreeably to the foregoing observations, was then greater than the number of annual settlers, and it is now less. It is, however, here supposed, that the number of annual settlers is now no more than a quarter of the annual burials, in order to allow for more omissions in the births than the burials; and also in order to be more sure of obtaining results that shall not exceed the truth. Of every 1000, then, who die in London, only 750 are natives, and 250 are recruits, who come to it after eighteen or twenty years of age; and, consequently, to obtain from the bills a more correct table than the first of the following tables, 250 must be subtracted from every one of the numbers in the second column till twenty; and the numbers in the third column must be kept the same, the bills always giving these right. After twenty the table is to be continued unaltered; and the result will be, a table which will give the numbers of the living at all ages in London much nearer the truth, but still somewhat too high. Such is the third of the following tables. The sum of all the numbers in the second column of this table, diminished by 500, is 20,750. For every 1000 deaths, therefore, in London, there are, according to this table, 20,750 living persons in it; or, for every single death, $20\frac{3}{4}$ inhabitants. It was before shown that the number of inhabitants in London could not be so great as 25 times $\frac{1}{4}$ the deaths. It now appears (since the numbers in the second column of this table are too high), that the number of inhabitants in London cannot be so great as even twenty times $\frac{1}{4}$ the deaths. And this is a conclusion which every one who will bestow due attention on what has been said, will find himself forced to receive. It will not be amiss, however, to confirm it by the following fact, the knowledge of which is derived from the particular enquiry and information of Mr. Harris, the late ingenious master of the royal mathematical school in Christ Church Hospital. The average of lads in this school has, for thirty years past, been 831. They are admitted at all ages between seven and eleven; and few stay beyond sixteen: they are, therefore, in general lads between the ages of eight and sixteen. They have better accommodations than children commonly have; and about 300 of them have the advantage of being educated in the country. In such circumstances, it may be well reckoned, that the proportion of children dying annually must be less than the general proportion of children dying annually at the same ages in London. The fact is, that for the last thirty years $12\frac{1}{2}$ have died annually, or one in 70 $\frac{1}{2}$. According to table III. one in seventy-three dies between ten and twenty, and one in seventy between eight and sixteen. That table, therefore, probably gives the decrements of life in London at these ages too little, and the numbers of the living too great; and if

this is true of these ages, it must be true of all other ages under twenty; and it follows demonstrably, in conformity to what was before shown, that more people settle in London after twenty than the fourth above supposed; and that from twenty, to at least thirty or thirty-five, the numbers of the living are given too great, in proportion to the decrements of life. In this table, the numbers in the second column are doubled at twenty, agreeably to what really happens in London; and the sum of the numbers in this column, diminished by half the whole number of deaths, gives the expectation of life, not of a child just born, as in other tables, but of all the inhabitants of London at the time they enter it, whether that be at birth or at twenty years of age. The expectations, therefore, and the values of London lives under twenty, cannot be calculated from this table. But it may be very easily fitted for this purpose, by finding the number of births which, according to the given decrements of life,

TABLE I.—MORTALITY.

Showing the probabilities of life in London, on the supposition that all who die in London were born there. Formed from the bills for ten years, from 1759 to 1768 :—

Ages.	Persons living.	Decr. of Life.	Ages.	Persons living.	Decr. of Life.	Ages.	Persons living.	Decr. of Life.
0	1000	240	31	404	9	62	132	7
1	760	99	32	395	9	63	125	7
2	661	42	33	386	9	64	118	7
3	619	29	34	377	9	65	111	7
4	590	21	35	368	9	66	104	7
5	569	11	36	359	9	67	97	7
6	558	10	37	350	9	68	90	7
7	548	7	38	341	9	69	83	7
8	541	6	39	332	10	70	76	6
9	535	5	40	322	10	71	70	6
10	530	4	41	312	10	72	64	6
11	526	4	42	302	10	73	58	5
12	522	4	43	292	10	74	53	5
13	518	3	44	282	10	75	48	5
14	515	3	45	272	10	76	43	5
15	512	3	46	262	10	77	38	5
16	509	3	47	252	10	78	33	4
17	506	3	48	242	9	79	29	4
18	503	4	49	233	9	80	25	3
19	499	5	50	224	9	81	22	3
20	494	7	51	215	9	82	19	3
21	487	8	52	206	8	83	16	3
22	479	8	53	198	8	84	13	2
23	475	8	54	190	7	85	11	2
24	463	8	55	183	7	86	9	2
25	455	8	56	176	7	87	7	2
26	447	8	57	169	7	88	5	1
27	439	8	58	162	7	89	4	1
28	431	9	59	155	8	90	3	1
29	422	9	60	147	8			
30	413	9	61	139	7			

will leave 494 alive at twenty; and then adapting the intermediate numbers in such a manner to this radix, as to preserve all along the number of the living in the same proportion to the numbers of the dead. This is done in the second of the following tables, and this table may be recommended as better adapted to the present state of London than any other table. The values of lives, however, deduced from it, are in general nearly the same with those deduced by Mr. Simpson from the London bills as they stood seventy years ago. The main difference is, that after fifty-two, and in old age, this table gives them somewhat lower than Mr. Simpson's table. The difference between the rate of human mortality in great towns and in country parishes and villages, may be found from various tables in Sir J. Sinclair's Statistical Account of Scotland; as well as from the Rev. Dr. Wilkie's table and calculations for the county of Fife.

TABLE II.—MORTALITY.

Showing the true probabilities of life in London for all ages. Formed from the bills for ten years, from 1759 to 1768 :—

Ages.	Persons living.	Decr. of Life.	Ages.	Persons living.	Decr. of Life.	Ages.	Persons living.	Decr. of Life.
0	1518	486	31	404	9	62	132	7
1	1032	200	32	395	9	63	125	7
2	832	85	33	386	9	64	118	7
3	747	59	34	377	9	65	111	7
4	688	42	35	368	9	66	104	7
5	646	23	36	359	9	67	97	7
6	623	20	37	350	9	68	90	7
7	603	14	38	341	9	69	83	7
8	589	12	39	332	10	70	76	6
9	577	10	40	322	10	71	70	6
10	567	9	41	312	10	72	64	6
11	558	9	42	302	10	73	58	5
12	549	8	43	292	10	74	53	5
13	541	7	44	282	10	75	48	5
14	534	6	45	272	10	76	43	5
15	528	6	46	262	10	77	38	5
16	522	7	47	252	10	78	33	4
17	515	7	48	242	9	79	29	4
18	508	7	49	233	9	80	25	3
19	501	7	50	224	9	81	22	3
20	494	7	51	215	9	82	19	3
21	487	8	52	206	8	83	16	3
22	479	8	53	198	8	84	13	2
23	471	8	54	190	7	85	11	2
24	463	8	55	183	7	86	9	2
25	455	8	56	176	7	87	7	2
26	447	8	57	169	7	88	5	1
27	439	8	58	162	7	89	4	1
28	431	9	59	155	8	90	3	1
29	422	9	60	147	8			
30	413	9	61	139	7			

TABLE III.—MORTALITY.

Showing the true probability of life in London till the age of nineteen.

Ages.	Persons living.	Deer. of Life.	Ages.	Persons living.	Deer. of Life.
0	750	240	12	272	4
1	510	99	13	268	3
2	411	42	14	265	3
3	369	29	15	262	3
4	340	21	16	259	3
5	319	11	17	256	4
6	308	10	18	253	
7	298	7	19	249	
8	291	6	20	494	
9	285	5	21	487	
10	280	4	&c.	&c.	
11	276	4			

The numbers in the second column to be continued as in table I.

We thus give the most accredited observations on this important subject, up to a recent period. But in our article SURVIVORSHIP we hope to show that much greater accuracy of calculation is attainable by the table of Mr. Babbage: while we are writing, the government plan of annuities, formed on the above calculations in part, has been so successfully attacked by Mr. Ferguson, that a bill is on its passage through parliament for discontinuing the granting any more annuities upon it.

MORTANCESTRY, BRIEF OF, in Scots law, anciently the ground of an action at the instance of an heir, in the special case where he had been excluded from the possession of his ancestor's estate by the superior, or other person pretending right.

MORTAR, *n. s.* Belg. *morter*; Fr. *mortier*; Lat. *mortarium*. A strong utensil for pounding or braying various materials: hence a gun of the same shape; hence also the materials pounded or brayed: the common name for the cement made of lime, sand, &c.

Though thou shouldst bray a fool in a mortar among wheat with a pestle, yet will not his foolishness depart from him.

Proverbs.

They had brick for stone, and slime for mortar.

Gen. xi. 3.

I will tread this unbolted villain into mortar, and daub the wall of a jakes with him.

Shakspeare.

Except you could bray Christendom in a mortar, and mould it into a new paste, there is no possibility of an holy war.

Bacon.

The action of the diaphragm and muscles serves for the comminution of the meat in the stomach by their constant agitation upwards and downwards, resembling the pounding of materials in a mortar.

Ray on the Creation.

Those arms which for nine centuries had braved the wrath of time on antique stone engraved, Now torn by mortars stand yet undefaced

On nobler trophies by thy valour raised.

Gravelle.
Mortar, in architecture, is a preparation of lime and sand mixed up with water, serving as a cement, and used by masons and bricklayers in building of

walls of stone and brick. Wolfius observes, that the sand should be dry and sharp, so as to prick the hands when rubbed, yet not earthy, so as to foul the water it is washed in: he also finds fault with masons and bricklayers as committing a great error, in letting their lime slacken and cool before they make up their mortar, and also in letting their mortar cool and die before they use it; therefore he advises, that if you expect your work to be well done, and to continue long, to work up the lime quick, and but a little at a time, that the mortar may not lie long before it be used.

Johnson.

MORTAR. See CEMENT. Under that article is given Dr. Anderson's theory of mortar, which has received a farther confirmation by the discovery, that if the lime is slaked, and the mortar made up with lime-water instead of common water, the mortar will be much better. The reason is, that in common water, especially such as is drawn from wells, there is always a considerable quantity of carbonic acid gas, which, mingling with the mortar previous to its being used, spoils it by reducing the quick lime in part to an inert calcareous earth like chalk; but, when it is built up in a perfectly caustic state, it attracts the air so slowly, that it hardens into a kind of stony matter, as hard as was the rock from whence the lime-stone was taken. The ancients differed in the composition of their building cements, and indeed sometimes do not seem to have used any; the Greeks having possessed the art of joining the surfaces of their stones in so skilful a way that it is difficult to discover the points of union. Sometimes they fixed them together by means of wooden pegs or bolts; sometimes by cramp irons dovetailed, as has been observed in an Athenian temple, and in those of Agrigent. In the instance of the Coliseum at Rome, as well as that of the amphitheatre at Verona, the free-stone is held firmly by means of cramp irons, and without mortar. It is, however, possible that mortar might have been used of a nature sufficiently fine and subtle to blend and assimilate itself in course of time to the masses of which it formed the cement. A large reservoir constructed at Sparta with pebble-stone attests that the kind of mortar employed among the Greeks was extremely solid. The method followed by the Romans, both in making and using their mortar, was in some respects similar to our own. The sand used by them was of different colors and qualities. From the quarries they extracted three sorts—black, white, and red, of which the latter was deemed the preferable. Besides these, there was a volcanic sand, the produce of Etruria. Of all these varieties, to which must be added those of the rivers and of the sea, such were selected and esteemed as contained fewest earthy particles.

A MORTAR, in chemistry, is a utensil very useful for the division of bodies, partly by percussion and partly by grinding. Mortars have the form of an inverted bell. The matter intended to be pounded is to be put into them, and is struck and bruised by a long instrument called a pestle. The motion given to the pestle ought to vary according to the nature of the substances to be pounded. Those which are easily broken, or which are apt to fly out of the mortar, or which are hardened by the stroke of the pestle,

require that this instrument should be moved circularly, rather by grinding or bruising than by striking. Those substances which are softened by the heat occasioned by rubbing and percussion, require to be pounded very slowly. Those which are very hard, and not capable of being softened, are easily pounded by repeated strokes of the pestle. They require no bruising but when they are brought to a certain degree of fineness. As mortars are constantly necessary in chemistry, they ought to be kept of all sizes and materials; as of marble, copper, glass, iron, gritstone, and agate. The nature of the substance to be pounded determines the choice of the kind of mortar. The hardness and dissolving power of that substance are particularly to be attended to. One of the principal inconveniences of pulverisation in a mortar proceeds from the fine powder which rises abundantly from some substances during the operation. If these substances be precious, the loss will be considerable; and, if they be injurious to health, they may hurt the operator. These inconveniences may be remedied, either by covering the mortar with a skin, in the middle of which is a hole, through which the pestle passes, or by moistening the matter with a little water when this addition does not injure it; or, lastly, by covering the mouth and nose of the operator with a fine cloth, to exclude this powder. Some substances, as corrosive sublimate, arsenic, calxes of lead, cantharides, euphorbium, &c., are so noxious, that all these precautions ought to be used, particularly when a large quantity of them is pounded. Large mortars ought to be fixed upon a block of wood, so high that the mortar shall be level with the middle of the operator. When the pestle is large and heavy, it ought to be suspended by a cord or chain fixed to a moveable pole, placed

horizontally above the mortar: this pole considerably relieves the operator, because its elasticity assists the raising of the pestle.

MORTAR. Fr. mortier. In the military art a short piece of ordinance, thick and wide, having a chamber less than the size of its bore, and used to discharge bombs or carcasses into a fortified place. The bomb, or shell, is a great hollow ball, filled with powder, which, falling into a fortification, &c., destroys the most substantial buildings by its weight, and, bursting asunder, creates the greatest disorder and mischief by its splinters. To prevent the shell from bursting at the first moment of discharge, it is furnished with a fuse, calculated to continue burning during its flight; and, to increase the weight of its fall, the mortar is elevated to a considerable angle above the horizon. The chambers of mortars are extremely different in their figures, and each of those figures is defended by better or worse arguments. Thus they are spherical, cylindrical, conical, bottled, or concave. Indeed, nothing appears to be less determined upon true principles or experiments than the proportions of the several parts of a mortar.

MORTARS, LAND, are those used in sieges, and in battles, mounted on beds made of solid timber, consisting generally of four pieces, those of the royal and Cohorn excepted, which are but one single block; and both mortar and bed are transported on block carriages. There is likewise a kind of land mortars, mounted on travelling carriages, invented by count Buckeburg, which may be elevated to any degree; whereas ours are fixed to an angle of 45°, and firmly lashed with ropes. The following table shows the weight of land-mortars and shells; together with the quantity of powder the chambers hold when full; the weight of the shells, and powder for loading them:—

Diameter of Mortars.	13-inch.	10-inch.	8-inch.	5·8 inch royal.	4·6 inch cohorn.
Mortar's weight . . .	cwt. qr. lb. 25 0 0	cwt. qr. lb. 10 2 18	cwt. qr. lb. 4 0 20	cwt. qr. lb. 1 1 0	cwt. qr. lb. 0 3 0
Shell's weight . . .	1 2 15	0 2 25	0 1 15	0 0 12	0 0 7
Shell's content of powder .	lb. oz. gr. 9 4 8	lb. oz. gr. 4 14 12	lb. oz. gr. 2 3 8	lb. oz. gr. 1 1 8	lb. oz. gr. 0 8 0
Chamber's cont. of powder	9 1 8	4 0 0	2 0 10	1 0 0	0 8 0

An elevation of 70° or 80° is commonly chosen for rendering mortars most serviceable in casting shells into towns, forts, &c., though the greatest range be at 45°. All the English mortars are fixed to an angle of 45°, and lashed strongly with ropes at that elevation; although in a siege there is only one case in which shells should be thrown with an angle of 45°; that is, when the battery is so far off that they cannot otherwise reach the works: for when shells are thrown out of the trenches into the works of a fortification, or from the town into the trenches, they should have as little elevation as possible, in order to roll along, and not bury themselves; whereby the damage they do, and the terror they occasion, are much greater than if they sink into

the ground. On the contrary, when shells are thrown upon magazines or any other buildings with an intention to destroy them, the mortars should be elevated as high as possible, that the shells may acquire a greater force in their fall, and consequently do greater execution. If all mortar-pieces were, as they ought to be, exactly similar, and their requisites of powder as the cubes of the diameters of their several bores, and if their shells, bombs, carcasses, &c. were also similar; then, comparing like with like, their ranges on the plane of the horizon, under the same degree of elevation, would be equal; and consequently one piece being well proved, i. e. the range of the grenado, bomb, carcase, &c., being found to any degree of elevation

the whole work of the mortar-piece would become very easy and exact. But, as mortars are not thus similar, it is required that the range of the piece, at some known degree of elevation, be accurately found by measuring; and hence all the other ranges may be determined. Thus, to find the range of the piece at any other elevation required: say, as the sine of double the angle under which the experiment was made is to the sine of double the angle proposed, so is the range known to the range required. Suppose, for instance, it be found, that the range of a piece, elevated to 30° , is 2000 yards: to find the range of the same piece with the same charge, when elevated to 45° , take the sine of 60° , the double of 30° , and make it the first term of the rule of three; and the second term must be the sine of 90° , the double of 45° ; and the third the given range 2000; the fourth term will be 2310, the range of the piece at 45° . If the elevation be greater than 45° , instead of doubling it, take the sine of double its complement to 90° . As, suppose the elevation of a piece be 50° , take the sine of 80° , the double of 40° . Again, if a determinate distance to which a shot is to be cast be given, and the angle of elevation to produce that effect be required; the range known must be the first term in the rule of three, which suppose 2000 yards; the range proposed, which we suppose 1600 yards, the second term; and the sine of sixty double of the elevation for the range of 2000 yards, the third term. The fourth term will be found the sine of $43^\circ 52'$, whose half $21^\circ 56'$ is the angle of elevation the piece must have to produce the desired effect. And, if $21^\circ 56'$ be taken from 90° , you will have $68^\circ 4'$ for the other elevation of the piece, with which the same effect will likewise be produced. To avoid the trouble of finding sines of double the angles of proposed elevations, Galileo and Torricelli give us the following table, wherein the sines of the angles sought are had by inspection:

Deg.	Deg.	Rang.	Deg.	Deg.	Rang.
90	0	0	0	0	0
89	1	349	66	24	7431
88	2	698	65	25	7660
87	3	1045	64	26	7880
86	4	1392	63	27	8090
85	5	1736	62	28	8290
84	6	2709	61	29	8480
83	7	2419	60	30	8660
82	8	2556	59	31	8829
81	9	3090	58	32	8988
80	10	3420	57	33	9135
79	11	3746	56	34	9272
78	12	4067	55	35	9397
77	13	4384	54	36	9511
76	14	4695	53	37	9613
75	15	5000	52	38	9703
74	16	5299	51	39	9781
73	17	5592	50	40	9841
72	18	5870	49	41	9903
71	19	6157	48	42	9945
70	20	6428	47	43	9976
69	21	6691	46	44	9994
68	22	6947	45	45	10000
67	23	7193			

The use of the table is obvious. Suppose, for instance, it be known by experiment that a mortar elevated 15° , charged with three lbs. of powder, will throw a bomb to the distance of 350 fathoms; and it be required, with the same charge, to throw a bomb 100 fathoms farther; seek in the table the number answering to 15° , and you will find it 5000. Then as 350 is to 450, so is 5000 to a fourth number, which is 6428. Find this number in the table, and opposite to it you will find the elevation of the mortar.

To load the mortar the proper quantity of gunpowder is put into the chamber, and if there be any vacant space they fill it up with hay; some choose a wooden plug; over this they lay a turf, some a wooden tampon fitted to the bore of the piece; and lastly the bomb; taking care that the fuse be in the axis thereof, and the orifice be turned from the muzzle of the piece: what space remains is to be filled up with hay, straw, turf, &c., so as the load may not be exploded without the utmost violence. The quantity of gunpowder to be used is found by dividing the weight of the bomb by thirty; though this rule is not always to be strictly observed. When the proper quantity of powder necessary to charge a sea mortar is put into the chamber, it is covered with a wad well beat down with the rammer. After this the fixed shell is placed upon the wad, as near the middle of the mortar as possible, with the fuse-hole uppermost, and another wad pressed down close upon it, so as to keep the shell firm in its position. The officer then points the mortar according to the proposed inclination. When the mortar is thus fixed, the fuse is opened; the priming iron is also thrust into the touch-hole of the mortar to clear it, after which it is primed with the finest powder. This done, two of the matrosses or sailors, taking each one of the matches, the first lights the fuse, and the other fires the mortar. The bomb, thrown out by the explosion of the powder, is carried to the place intended: and the fuse, which ought to be exhausted at the instant of the shell's falling, inflames the powder contained in it, and bursts the shell into splinters; which, flying off circularly, occasion incredible mischief wheresoever they reach. If the service of mortars should render it necessary to use pound-shots, 200 of them with a wooden bottom are to be put into the thirteen-inch mortar, and a quantity of powder not exceeding five pounds; and 100 of the above shot with two pounds and a half of powder, for the ten-inch mortar, or three pounds at most. Carcasses are also thrown out of them. There are a sort of shells with five holes, filled with pitch, and other combustibles, in order to set buildings on fire: and sometimes baskets full of stones, the size of a man's fist, are thrown out of them upon an enemy placed in the covertway during a siege.

MORTARS, SEA, are those which are fixed in the bomb-vessels for bombarding places by sea: and, as they are generally fired at a much greater distance than that which is required by land, they are made somewhat longer and much heavier than the land mortars. The following table exhibits the weight of the sea-mortars and shells, and also of their full charges:—

Nature of the Mortar.	Powder contained in the chamber when full.		Weight of the Mortar.		Weight of the shell when fixed.	Weight of powder contained in the shell.	
	lb.	oz.	cwt.	qr. lb.	lb.	lb.	oz.
10-inch howitzer . . .	12	0	31	2 26			
13-inch mortar . . .	30	0	81	2 1	198	7	0
10-inch mortar . . .	12	0	34	2 11	93		

MORTGAGE, n.s. & v.a. } Fr. *mort* and
MORTGAGEE, n. s. } *gage*. A dead
MORTGAGER. } pledge; a thing
 put into the hands of a creditor ; state of being
 pledged : the mortgagee is he who takes, and the
 mortgager he who gives, in mortgage. See
 below.

They make the widow's *mortgaged* ox their prey.

Sandys.

The land is given in *mortgage* only, with full in-
 tent to be redeemed within one year.

Bacon.

Let men contrive how they disentangle their
mortgaged souls.

Decay of Piety.

An act may pass for public registries of land, by
 which all purchasers or *mortgages* may be secured of
 all monies they lay out.

Temple's Miscellanies.

The estate runs out, and *mortgages* are made,

Their fortune ruined, and their fame betrayed.

Dryden.

The broker,

Bent on some *mortgage*, to avoid reproach,

He seeks bye-streets, and saves the expensive coach.

Gay.

The Romans do not seem to have known the
 secret of paper credit, and securities upon *mortgages*.

Arbutnot.

Their not abating of their expensive way of living
 has forced them to *mortgage* their best manors. *Id.*

Some have his lands, but none his treasured store,
 Lands unmanured by us, and *mortgaged* o'er and
 o'er.

Hurle.

No man can *mortgage* his injustice as a pawn for
 his fidelity.

Burke.

MORTGAGE, in English law (*mortuum vadium*,
 or dead pledge), is where a man borrows of
 another a specific sum (e. g. £200), and grants
 him an estate in fee, on condition that if he, the
 mortgager, shall pay the mortgagee the said sum
 of £200 on a certain day mentioned in the deed,
 the mortgager may then re-enter on the estate
 so granted in pledge; or, as is now the more
 usual way, that the mortgagee shall re-convey the
 estate to the mortgager: in this case the land
 which is so put in pledge is, by law, in case of
 non-payment at the time limited, for ever dead
 and gone from the mortgager; and the mortga-
 gee's estate in the lands is then no longer condi-
 tional, but absolute. But so long as it continues
 conditional, that is, between the time of lending
 the money and the time allotted for payment, the
 mortgagee is called *tenant in mortgage*. But as
 it was formerly a doubt, whether, by taking such
 estate in fee, it did not become liable to the
 wife's dower, and other incumbrances of the
 mortgage (though that doubt has been long ago
 over-ruled by our courts of equity), it therefore
 became usual to grant only a long term of years,
 by way of mortgage; with condition to be void
 on repayment of the mortgage money; which
 course has been since continued, principally be-

cause, on the death of the mortgagee, such terms
 become vested in his personal representatives,
 who alone are entitled in equity to receive the
 money lent, of whatever nature the mortgage
 may happen to be. As soon as the estate is
 created, the mortgagee may immediately enter on
 the lands; but is liable to be dispossessed, upon
 performance of the condition by payment of the
 mortgage money at the day limited. And there-
 fore the usual way is to agree that the mortgager
 shall hold the land till the day assigned for pay-
 ment; when, in case of failure, whereby the es-
 tate becomes absolute, the mortgagee may enter
 upon it and take possession, without any possi-
 bility at law of being afterwards evicted by the
 mortgager, to whom the land is now for ever
 dead. But here again the courts of equity inter-
 pose; and though a mortgage be thus forfeit-
 ed, and the estate absolutely vested in the
 mortgagee at the common law, yet they will con-
 sider the real value of the tenements compared
 with the sum borrowed. And, if the estate be of
 greater value than the sum lent thereon, they will
 allow the mortgager at any reasonable time to
 recal or redeem his estate; paying to the mort-
 gagee his principal, interest, and expenses: for
 otherwise, in strictness of law, an estate worth
 £1000 might be forfeited for non-payment of
 £100, or a less sum. This reasonable advantage
 allowed to mortgagers is called the equity of re-
 demption; and this enables a mortgager to call
 on the mortgagee, who has possession of his es-
 tate, to deliver it back, and account for the rents
 and profits received on payment of his whole
 debt and interest, thereby turning the *mortuum*
 into a kind of *vivum vadium*. See **VADIUM**.
 But, on the other hand, the mortgagee may either
 compel the sale of the estate, in order to get the
 whole of his money immediately; or else call
 upon the mortgager to redeem his estate pre-
 sently, or, in default thereof, to be for ever fore-
 closed from redeeming the same; that is, to lose
 the equity of redemption, without possibility of
 recall. And also, in some cases of fraudulent
 mortgages, the fraudulent mortgager forfeits all
 equity of redemption whatsoever. It is not,
 however, usual for mortgagees to take possession
 of the mortgaged estate, unless where the secu-
 rity is precarious, or small; or where the mort-
 gager neglects even the payment of interest;
 when the mortgagee is often obliged to bring an
 ejectment, and take the lands into his own hands,
 in the nature of a pledge, or the *pignus* of the
 Roman law: whereas, while it remains in the
 hands of the mortgager, it more resembles their
hypotheca, which was where the possession of
 the thing pledged remained with the debtor. But
 by statute 7 Geo. II. c. 20, after payment or

tender by the mortgager of principal, interest, and costs, the mortgagee can maintain no ejectment; but may be compelled to re-assign his securities. In Glanville's time, when 'the universal method of conveyance was by livery of seisin or corporal tradition of the lands, no gage or pledge of lands was good unless possession was also delivered to the creditor: si non sequator ipsius vadii traditio, curia domini regis hujusmodi privatas conventiones tueri non solet: for which the reason given is, to prevent subsequent and fraudulent pledges of the same land; cum in tali casu possit eadem res pluribus aliis creditoribus, tum prius tum posterius, invadiari. And the frauds which have arisen, since the exchange of these public and notorious conveyances for more private and secret bargains, have well evinced the wisdom of the ancient law.

MORTIER, an ensign of dignity, borne by the ci-devant chancellor and grand presidents of the parliament of France. That borne by the chancellor was a piece of cloth of gold, edged and turned up with ermine; and that of the first president a piece of black velvet, edged with a double row of gold lace, while those of the other presidents were only edged with a single row. These they carried on their heads, in grand ceremonies, such as the entry of the king; but ordinarily they carried them in their hands.

MORTIFEROUS, *adj.* } Latin, *mortifer* ;
MORTIFY, *v. a. & v. n.* } Fr. *mortifier, mortification*. Deadly;
MORTIFICATION, *n. s.* }
fatal: to mortify is to destroy vital or active powers; hence to subdue passion; to vex; distress: and hence to harass; macerate; reduce the body under mental discipline: as a neuter verb, to corrupt; gangrene; be subdued; decayed; practice religious severity: mortification follows all these senses.

Let my liver rather heat with wine,
Than my heart cool with *mortifying* groans.
Shakspeare.

The breath no sooner left his father's body,
But that his wildness *mortified* in him,
Seemed to die too. *Id. Henry V.*

Their dear causes
Would to the bleeding and the grim alarm
Excite the *mortified* man. *Id. Macbeth.*

It appeareth in the gangrene, or *mortification* of flesh, either by opiates, or intense colds. *Bacon.*

Inquire what gives impediment to union or restitution, which is called *mortification*; as when quicksilver is *mortified* with turpentine. *Id.*

He *mortified* pearls in vinegar, and drunk them up. *Hakewill.*

These murmurings, like a *mortiferous* herb, are poisonous even in their first spring.

Government of the Tongue.
What is it but a continued perpetuated voice from heaven, to give men no rest in their sins, no quiet from Christ's importunity, till they awake from the lethargick sleep, and arise from so dead, so *mortiferous* a state, and permit him to give them life?
Hammond.

Let the penitent be infinitely careful that he does not *mortifie* one vicious habit by a contrary vice, but by a contrary virtue. For to what purpose is it that you are cured of prodigality, and then die by covetousness.
Jer. Taylor.

My griefs ferment and rage,
Nor less than wounds immedicable,
Ranckle and fester, and gangrene,
To black *mortification*. *Milton's Agonistes.*

The elevation of that mysterious serpent upon a pole did render it visible, and attracted the eyes of people toward it; whereby God's power invisibly accompanying that sacramental performance, they were cured of those *mortiferous* stings which they had received. *Barrow.*

We *mortify* ourselves with fish, and think we fare coarsely if we abstain from flesh. *Broune.*

Oil of tartar per deliquium has a great faculty to find out and *mortify* acid spirits. *Boyle.*

The *mortification* of our lusts has something in it that is troublesome, yet nothing that is unreasonable. *Tillotson.*

Mortified he was to that degree,
A poorer than himself he would not see.

Drayden.
It is one of the vexatious *mortifications* of a studious man, to have his thoughts disordered by a tedious visit. *L'Strange.*

We had the *mortification* to lose the sight of Munich, Augsburg, and Ratisbon. *Addison on Italy.*

How often is the ambitious man *mortified* with the very praises he receives, if they do not rise so high as he thinks they ought. *Id. Spectator.*

Suppress thy knowing pride,
Mortify thy learned lust,
Vain are thy thoughts, while thou thy thyself art dust. *Prior.*

A diet of some fish is more rich and alkaliescent than that of flesh, and therefore very improper for such as practise *mortification*. *Arbutnot on Aliments.*

He modestly conjectures,
His pupil might be tired with lectures,
Which helped to *mortify* his pride. *Swift.*

This makes him careful of every temper of his heart, give aims to all that he hath, watch, and fast, and *mortify*, and live according to the strictest rules of temperance, meekness, and humanity. *Law.*

You see no real *mortification*, or self-denial, no eminent charity, no profound humility, no heavenly affection, no true contempt of the world, no Christian weakness, no sincere zeal, or eminent piety, in the common lives of Christians. *Id.*

With fasting *mortified*, worn out with tears,
And bent beneath the load of seventy years. *Harte.*

It is a great *mortification* to the vanity of man, that his utmost art and industry can never equal the meanest of nature's productions, either for beauty or value. *Hume.*

If our hopes and joys centre here, it is a *mortifying* thought that we are every day departing from our happiness; but, if they are fixed above, it is a joy to think that we are every day drawing nearer to the object of our highest wishes. *Mason.*

Not many wise, rich, noble, or profound
In science, win one inch of heavenly ground,
And is it not a *mortifying* thought
The poor should gain it and the rich should not?
Cowper.

MORTIFICATION, in medicine and surgery, is a total extinction of the natural heat of the body, or a part thereof. Some define mortification a disease, wherein the natural juices of any part quite lose their proper motion: and thus fall into a fermentative one, and corrupt and destroy the texture of the part. Surgeons divide mortification into two species, the one preceded by in-

flammation, the other without it. In inflammations terminating in mortifications, there is a diminution of power joined to an increased action; this becomes a cause of mortification, by destroying the balance of power and action, which ought to exist in every part. There are, however, cases of mortification that do not arise wholly from that as a cause: of this kind are the carbuncle, and the slough, formed in the small-pox pustule. Healthy phlegmonous inflammation seldom ends in mortification, though it occasionally does so when very vehement and extensive. Erysipelatous inflammation is observed most frequently to terminate in gangrene; and whenever phlegmon is in any degree conjoined with an erysipelatous affection, which it not unfrequently is, it seems thereby to acquire the same tendency, being more difficult to bring to resolution, or suppuration, than the true phlegmon, and more apt to run into a mortified state.

Causes which impede the circulation of the part affected, will occasion mortification, as is exemplified in strangulated hernia, tied polypi, or a limb deprived of circulation from a dislocated joint.

Preventing the entrance of arterial blood into a limb is also another cause. Paralysis, conjoined with pressure, old age, and ossification of the arteries, may produce mortification; also cold, particularly if followed by the sudden application of warmth; and likewise excessive heat applied to a part.

The symptoms of mortification that take place after inflammation are various, but generally as follows:—the pain and sympathetic fever suddenly diminish, the part affected becomes soft, and of a livid color, losing at the same time more or less of its sensibility.

When any part of the body loses all motion, sensibility, and natural heat, and becomes of a brown livid or black color, it is said to be affected with sphacelus. When the part becomes a cold, black, fibrous, senseless substance, it is termed a slough. As long as any sensibility, motion, and warmth continue, the state of the disorder is said to be gangrene. When the part has become quite cold, black, fibrous, incapable of moving, and destitute of all feeling, circulation, and life; this is the second state of mortification, termed sphacelus.

When gangrene takes place the patient is usually troubled with a kind of hiccough: the constitution always suffers an immediate dejection, the countenance assumes a wild cadaverous look, the pulse becomes small, rapid, and sometimes irregular; cold perspirations come on, and the patient is often affected with diarrhœa and delirium. See SURGERY.

MORTIFICATION, in religion, is any severe penance observed on a religious account. The practice has been very ancient and almost universal. See FAST.

MORTIMAR (Athenais de), marchioness Montespan, wife of the marquis of Montespan, and one of Louis XIV's mistresses, who by her wit and beauty gained a complete ascendancy over that monarch. Her husband, instead of thinking himself honored by the connexion, became en-

raged, and even struck her in the palace, for which he was banished to his estate; but 100,000 crowns purchased his silence, his wife, and his honor. She held the monarch captive till 1675, when he became the victim of Mad. de Maintenon's superior charms. These two rivals, however, kept up an intimacy, and even agreed to write memoirs of all that passed at court, but the work was never completed. Athenais had three children by Louis; a son created duke of Maine, and married to a grand daughter of the great Conde, and two daughters, married, the one to a grandson of that prince, and the other to the duke of Chartres. She died at Bourbon in 1717.

MORTIMER (John Hamilton), an English artist, born at East Bourne in Sussex, in 1739. He studied under his uncle; afterwards under Hudson and Sir Joshua Reynolds. In 1779 the king appointed him a royal academician, but he died that year at his house in Norfolk Street, aged forty. King John granting the Magna Charta to the barons, and the battle of Agincourt, two of his best pictures, have been engraved. The first was nearly finished by Mr. Ryland and completed by Mr. Bartalozzi. His piece representing St. Paul converting the Britons gained the Society's prize of 100 guineas.

MORTIMER (Thomas), was born in London in 1730, and received a liberal education. He obtained early in life the appointment of his majesty's vice-consul for the Austrian Netherlands; but, having been displaced, he adopted the profession of an author, which he exercised with great assiduity and respectability. His chief works are, *The British Plutarch*, 1762, 6 vols. 12mo.; *Dictionary of Trade and Commerce*, 1766, 2 vols. folio; *The Elements of Commerce, Politics, and Finances*, 1772, 4to, of which a German translation, by J. A. Englebrecht, was published at Leipsic in 1781; *History of England*, 3 vols. folio; and the *Student's Pocket Dictionary, or Compendium of History, Chronology, and Biography*, 12mo. He also translated Necker's *Treatise on the Finances of France*; and edited Beawes's *Lex Mercatoria*. In 1809 Mr. M. published a *General Dictionary of Commerce, Trade, and Manufactures*, 8vo., distinct from his former dictionary, and died in December of that year.

MORTISE, *n. s. & v. a.* Fr. *mortaise*; Wel. *mortaise*, or *mortoise*: Ital. *moirtis*. A joint in wood; to make such a joint.

The walls of spider's legs are made,
Well mortised and finely laid.

Drayton's Nymphid.

A fuller blast ne'er shook our battlements,
If it hath ruffianed so upon the sea,
What ribs of oak, when mountains melt on them
Can hold the mortise. *Shakespeare. Othello.*

'Tis a massy wheel,

To whose huge spoke ten thousand lesser things
Are mortised and adjoined. *Id. Hamlet.*

The tree is raised up; and now, not without
a vehement concussion, settled in the mortise.

Bp. Hall.

Under one skin are parts variously mingled, some
with cavities, as mortises to receive, others with
tenons to fit cavities. *Ray.*

The one half of the ship being finished, and by help of a screw launched into the water, the other half was joined by great brass nails mortised with lead.

Arbutnot on Coins.

MORTMAIN, n. s. Fr. *morte* and *main*. Such a state of possession as makes it unalienable; whence it is said to be in a dead hand, or one that cannot dispose of the property.

It were meet that some small portion of lands were allotted, since no more *mortmains* are to be looked for.

Spenser.

MORTMAIN. I. DEFINITION.—The alienation, or transfer of lands and tenements, is prohibited by the statutes of mortmain from being made to any corporation without the king's license, and that of the lord of the manor. The term mortmain is used because it is the policy of the law that the services or profits attached to or arising out of lands should not, without license, come into a dead hand, or one so dedicated to pious uses as to be different from other lands or hereditaments, and not to revert to any temporal or common use.

II. COMMON LAW.—By the common law any man might dispose of his lands to any other private man at his own discretion, especially when the feudal restraints were worn away; yet it always was, and still is, necessary for corporations to have a license in mortmain to enable them to purchase lands. Such licenses were necessary among the Saxons before the Norman conquest. The influence and ingenuity of the clergy, however, soon surmounted this obstacle, and the most considerable acquisitions of religious houses happened within two centuries of the conquest. When a license could not be obtained it was contrived that, as the forfeiture for alienation accrued in the first place to the immediate lord of the fee, the tenant who meant to alienate first conveyed his lands to the religious house, and instantly took them back again, to hold as tenant to the monastery; which kind of instantaneous seisin was probably held not to occasion any forfeiture: and then, by pretext of some other forfeiture, surrender, or escheat, the society entered into those lands, in right of such their newly acquired seignior, as immediate lords of the fee. When these donations began to grow numerous it was observed that the feudal services ordained for the defence of the kingdom were every day visibly withdrawn; that the circulation of landed property from man to man began to stagnate; and that the lords were curtailed of the fruits of their seigniories, their escheats, wardships, reliefs, and the like. Hence originated the several statutes of mortmain, the substance of which we now proceed to state.

III. STATUTES.—By *Magna Charta*, cap. 36, it is declared that it shall not be lawful for any person to give his lands to any religious house, and to take the same land again to hold of the same house, &c., upon pain that the gift shall be void, and the land shall accrue to the lord of the fee.

This prohibition, however, extending only to religious 'houses,' bishops and other sole corporations were not included therein; and the aggregate ecclesiastical bodies found many means to evade the statute, by buying lands that

were *bonâ fide* held of themselves as lords of the fee, and thereby evading the forfeiture; or by taking long leases for years, which first introduced those extensive terms for 1000 or more years, which are now so frequent in conveyances. The devices thus resorted to produced the statute *de religiosis*, 7 Ed. I., commonly called the statute of mortmain, which provided that no person, religious or other whatsoever, should buy or sell, or receive, under pretence of a gift, or term of years, or any other title whatsoever, nor should, by any art or ingenuity, appropriate to himself any lands or tenements in mortmain, upon pain that the immediate lord of the fee, or on his default for one year the lords paramount, and in default of all of them the king might enter thereon as a forfeiture. This seemed to be a sufficient security against all alienations in mortmain; but, as these statutes extended only to gifts and conveyances between the parties, the religious houses began to set up a fictitious title to the lands which it was intended they should have, and to bring 'an action to recover' it against the tenant who, by fraud and collusion, made no defence, and thereby judgment was given for the religious house, which then recovered the land by sentence of law upon a supposed prior title, and thus they had the honor of inventing those fictitious adjudications of right which have since become the great assurance of the kingdom under the title of common recoveries.

This new evasion was followed by the statute of Westminster 13 Edw. I. c. 32, which enacted that in such cases a jury shall try the true right of the demandants or plaintiffs to the land, and if the religious house or corporation be found to have it, they shall still recover seisin, otherwise it shall be forfeited in the manner prescribed by the former act. Still the bounds were not sufficiently set to ecclesiastical ingenuity. When thus driven out of the former holds, a new method of conveyance was devised, by which the lands were granted not to themselves directly, but to nominal feoffees to the use of the religious houses: thus distinguishing between the possession and the use, and receiving the actual profits, while the seisin of the lands remained in the nominal feoffee; who was held by the courts of equity (then under the direction of the clergy) to be bound in conscience to account to his cestui que use for the rents and emoluments of the estate. And it is to these inventions that our practisers are indebted for the introduction of uses and trusts, the foundation of modern conveyancing.

The statute of 15 Rich. II., c. 5, soon curtailed this new device, and enacted that lands which had been so purchased to uses should be amortised by license from the crown, or else be sold to private persons; and that for the future uses should be subject to the statute of mortmain, and forfeitable like the lands themselves. And as the statutes had been eluded by purchasing large tracts of land adjoining to churches, and consecrating them by the name of church-yards, such subtle imagination is also declared to be within the compass of the statutes of mortmain. Civil or lay corporations, as well as ecclesiastical, are also declared to be within the mischief pre-

vided against, and of course within the remedy provided by those salutary laws. And lastly, as, during the times of popery, lands were frequently given to superstitious uses, though not to any corporate bodies; or were made liable in the hands of heirs or devisees, to the charge of obits, chantries, and the like, which are equally pernicious in a well-governed state, as actual alienations in mortmain; therefore at the reformation the statute 23 Hen. VIII., c. 10, declares that all future grants of lands for any of the purposes aforesaid, for a longer term than twenty years, shall be void. The crown, however, had the power, during all this time, by granting a license of mortmain, to remit the forfeiture so far as related to its own rights, and to enable any spiritual or other corporation to purchase and hold any lands or tenements in perpetuity; which prerogative was confirmed by 18 Edw. III. stat. 3, c. 3, and subsequently by 7 and 8 Will. III. c. 37.

By the 39th Eliz. c. 5 the gift of lands, &c., to hospitals is permitted without obtaining licenses of mortmain. For the purpose of augmenting poor livings, it was also enacted, by 17 Car. II. c. 3, that appropriators may annex the great tithes to the vicarages; and that all benefices under £100 per annum may be augmented by the purchase of lands, without license of mortmain in either case. The like provision has been since made in favor of the governors of queen Anne's bounty, 2 and 3 Ann. c. 11.

To prevent, however, persons on their deathbeds from making large and improvident grants, even for good purposes, and defeating the political ends of the statute of mortmain, it is enacted, by 9 Geo. II. c. 36, that no lands or tenements, or money to be laid out thereon, shall be given for, or charged with, any charitable uses whatsoever, unless by deed indented, executed in the presence of two witnesses, twelve calendar months before the death of the donor, and enrolled in the court of chancery within six months after its execution (except stocks in the public funds which may be transferred within six months previous to the donor's death), and unless such gift be made to take effect immediately, and be without power of revocation: and that all other gifts shall be void.

IV. CONSTRUCTION OF THE STATUTES.—It has been held that the statute 32 Hen. VIII. c. 10, did not extend to any thing but superstitious uses, and that therefore a man may give lands for the maintenance of a school, an hospital, or any other charitable use. 1 Rep. 24. It has been declared since the last mortmain act, that there is no restriction whatsoever upon any one from leaving a sum of money by will, or any other personal estate, to charitable uses; provided it be to be continued as a personality, and the executors or trustees are not obliged or under a necessity of laying it out in land, by virtue of any direction of the testator for that purpose. 2 Burn Ecc. 509. A bequest of money to be laid out in land for the establishment of a minister of a chapel is void, and cannot be supported by supposing a discretion in the trustees not to lay it out in land, the directions in the will being imperative. 1 Vesey 548.

Money left to repair parsonage houses, or to build upon land already in mortmain, is held not to be within the statute. But a legacy to the corporation of queen Anne's bounty is void, as by the rules of the corporation it must be laid out in land.

Though every corporation was capable, at the common law, of purchasing lands for themselves and successors, they cannot now, whether ecclesiastical or lay, purchase without license from the crown. This license is usually granted by act of parliament, charter of incorporation, or letters patent, and charities which are not thus licensed choose from among themselves certain persons to be trustees, and to purchase in their names, and take the lands in trust for the charity. If bought in the name of the institution, not being incorporated, they would instantly vest in the crown, as a forfeiture in mortmain. The stat. 9 Geo. II. c. 36 is so construed by the courts as to give it full force; yet all proper encouragement is given to those gifts and bequests to charities which do not contravene the policy of the statute of mortmain. And although the gift of money or personal estate 'to be laid out in lands' for charitable uses is prohibited, yet money or other personalty given generally is not forbidden. So a gift of money to be laid out in lands or otherwise to a charitable use is valid, on account of the option given to lay it out in personal securities.

The courts also favor bequests made for intended charities, though not existing at the time of making the will. The two universities, their colleges, and the scholars upon the foundation of the colleges of Eton, Winchester, and Westminster, are excepted by the 9 Geo. II. c. 36; but the latter part of the exception being confined to any disposition 'for the better support and maintenance of the scholars only upon those foundations,' a device for any other purpose would probably be declared void. A bequest to trustees of real and personal estate, for the purpose of establishing a perpetual botanical garden, was declared void upon the expression of the testator that 'he trusted it would be a public benefit.'—6 Vesey 194.

MORTON (Thomas), a learned English bishop in the seventeenth century, bred at St. John's College, Cambridge, and logic-lecturer of the university. After several preferments he was advanced to the see of Chester in 1615, and translated to that of Litchfield and Coventry in 1618. In 1632 he was translated to the see of Durham, in which he sat with great reputation till the opening of the long parliament, which met in 1640; when he was committed twice to custody. The parliament, upon the dissolution of bishoprics, voted him £800 a year, of which he received but a small part. He died in 1659, in the ninety-fifth year of his age, and forty-fourth of his consecration. He published *Apologia Catholica*, and several other works; and was a man of extensive learning and great piety.

MORTPAY, *n. s.* Fr. *mort* and *pay*. Dead pay; payment not made.

This parliament was merely a parliament of war, with some statutes conducing thereunto; as the

severe punishing of *mortgages*, and keeping back of soldier's wages. *Bacon.*

MORTRESS, *n. s.* Abridged from *mortier de sagesse*.—Skinner. A dish of meat of various kinds beaten together.

A *mortress* made with the brawn of capons, stamped, strained, and mingled with like quantity of almond butter, is excellent to nourish the weak.

Bacon's Natural History.

MORTUARY, *n. s.* Fr. *mortuaire*; Lat. *mortuarium*. A gift left by a man at his death to his parish church, for recompense of personal tithes and offerings not duly paid.

MORTUARY, in law, is a sort of ecclesiastical heriot, being a customary gift claimed by and due to the minister in very many parishes on the death of his parishioners. It seems originally to have been only a voluntary bequest to the church; being intended, as Lyndewode informs us from a constitution of archbishop Langham, as a kind of expiation and amends to the clergy for the personal tithes, and other ecclesiastical duties, which the laity in their life time might have neglected or forgotten to pay. For this purpose, after the lord's heriot or best good was taken out, the second best chattel was reserved to the church as a mortuary. And therefore, in the laws of king Canute, this mortuary is called soul-scot, or *symbolum animæ*. And in pursuance of the same principle by the laws of Venice, where no personal tithes had been paid during the life of the party, they were paid at his death out of his merchandise, jewels, and other moveables. So also, by a similar policy in France, every man that died without bequeathing a part of his estate to the church, which was called dying without confession, was formerly deprived of Christian burial; or, if he died intestate, the relations of the deceased, jointly with the bishop, named proper arbitrators to determine what he ought to have given to the church, in case he had made a will. But the parliament, in 1409, redressed this grievance. It was anciently usual in England to bring the mortuary to church along with the corpse when it came to be buried; and thence it is sometimes called a *corse-present*: a term which bespeaks it to have been once a voluntary donation. However, in Bracton's time, so early as Henry III., we find it rivetted into an established custom: inasmuch that the bequests of heriots and mortuaries were held to be necessary ingredients in every testament of chattels. *Imprimis autem debet quilibet, qui testamentum fecerit, dominum suum de meliori re quam habuerit recognoscere; et postea ecclesiam de alia meliori; et the lord must have the best good left him as an heriot; and the church the second best as a mortuary. But yet this custom was different in different places: in quibusdam locis habet ecclesia melius, animal de consuetudine; in quibusdam secundum, vel tertium melius: et in quibusdam nihil; et ideo consideranda est consuetudo loci.* In Wales a mortuary or *corse-present* was due, upon the death of every clergyman, to the bishop of the diocese; till abolished upon a recompence given to the bishop, by the stat. 12 Ann. st. 2, c. 6. And in the archdeaconry of Chester a custom also prevailed that the bishop, who is also archdeacon,

should have, at the death of every clergyman dying therein, his best horse or mare, bridle, saddle, and spurs; his best gown or cloak, hat, upper garment under his gown, and tippet, and also his best signet or ring. But, by stat. 28 Geo. II. c. 6, this mortuary is directed to cease, and the act has settled upon the bishop an equivalent in its room. The king's claim to many goods, on the death of all prelates in England, seems to be of the same nature; though Sir Edward Coke apprehends that this is a duty upon death, and not a mortuary; a distinction which seems to be without a difference. For not only the king's ecclesiastical character, as supreme ordinary, but also the species of the goods claimed, which bear so near a resemblance to those in the archdeaconry of Chester, which was an acknowledged mortuary, puts the matter out of dispute. The king, according to the record vouched by Sir E. Coke, is entitled to six things; the bishop's best horse or palfrey, with his furniture; his cloak or gown, and tippet; his cup and cover; his basin and ewer; his gold ring; and lastly his *muta canum*, his mew or kennel of hounds. This variety of customs with regard to mortuaries, giving frequently a handle to exactions on one side, and frauds or expensive litigations on the other, it was thought proper, by stat. 21 Hen. VIII. c. 6, to reduce them to some kind of certainty. For this purpose it is enacted that all mortuaries, or *corse presents* to parsons of any parish, shall be taken in the following manner, unless where by custom less or at all none is due: viz. for every person who does not leave goods to the value of ten marks, nothing; for every person who leaves goods to the value of ten marks, and under £30, 3s. 4d.; if above £30 and under £40, 6s. 8d.; if above £40, of what value soever they may be, 10s., and no more. And no mortuary shall, throughout the kingdom, be paid for the death of any female; nor for any child; nor for any one of full age, that is not a housekeeper; nor for any wayfaring man; but such wayfaring man's mortuary shall be paid in the parish to which he belongs. And upon this statute stands the law of mortuaries to this day.

MORTY, a pleasant island of the Eastern Seas, in long. 128° 23' E., and lat. 2° 15' N., separated from the north-east part of the island of Gilolo by a channel about twenty-five miles wide, called the Strait of Morty. It is said to abound in sago trees; and is sixty-five miles long by about seventeen broad.

MORVEAU GUYTON (L. Bernard), one of the most celebrated of modern chemists, was the son of a lawyer of Dijon, and born in 1737. He became advocate-general in the parliament of Dijon, and attorney-general of the Cote d'Or: previously to the French Revolution he also distinguished himself by the study of chemistry and natural philosophy. In 1777 he discovered a lead mine in the province of Burgundy. Guyton Morveau was a contributor of articles on chemistry to the *Encyclopedie Methodique*; and had a share in the researches which led to the foundation of the antiphlogistic theory of chemistry; was one of the authors of the reformed chemical nomenclature, &c. He relinquished

his office of advocate-general, after having published his pleadings at the bar. At the commencement of the Revolution (September 1791) he became a deputy for the department of Côte d'Or, and was afterwards a member of the convention. He was a violent republican at this time, and voted for the death of the unhappy Louis XVI. Buonaparte decorated him with the insignia of the legion of honor, and he was one of the first members of the Institute. He left *Elémens de Chimie*, Dijon, 1777, 3 vols. 12mo. *Digressions Academiques, &c.*, 12mo.; and various memoirs in the *Annales de Chimie*. He died 21st December, 1815.

MORUNG, a woody district of north Hindostan, tributary to Nepal. It is situated in about the 27° of lat. and is very mountainous, some parts being 7000 feet higher than Bengal. The timber is sometimes floated down the river Cosa; but it is extremely unhealthy and little known.

MORUS, the mulberry-tree, a genus of the tetandria order, and monœcia class of plants; natural order fifty-third, scabridæ: **MALE CAL.** quadripartite; **COR.** none: **FEMALE CAL.** tetraphyllous; **COR.** none; styles two; calyx becoming a berry with one seed. There are seven principal species:—

1. *M. alba*, the white mulberry-tree, rises with an upright trunk, branching twenty or thirty feet high; garnished with large, oblique, heart-shaped, smooth, light-green, shining leaves, and monœcious flowers, succeeded by pale-whitish fruit. There is a variety with purplish fruit. The leaves of the mulberry-tree afford the principal food of that valuable insect the silk-worm. The leaves of the alba are preferred for this purpose in Europe; but in China, where the best silk is made, the worms are said to be fed with those of the *morus tartarica*. The advantage of white mulberry-trees is not confined to the nourishment of worms: they may be cut every three or four years like willows and poplar trees to make faggots; and the sheep eat their leaves in winter before they are burnt. This kind of food, of which they are extremely fond, is very nourishing; it gives a delicacy to the flesh, and a fineness and beauty to the wool. In short in every climate, and in most fields, it might be proper, as is the case in Spain, to wait for the first hoar-frost shaking off the leaves, which are gathered and placed to dry in sheds or cart-houses, taking care always to stir them from time to time. In Spain the sheep are fed on these leaves during the cold and frosts. By this method no injury is done to the mulberries, which produce leaves every year: and it is thought that the beauty and fineness of the Spanish wool is in a great measure owing to the use of this kind of food. From these considerations M. Bourgeois infers, that even in countries where, from the nature of the climate, the scarcity of workmen and the high price of labor, or any other particular causes, silk-worms could not be raised to any advantage, the cultivation of mulberry-trees ought not to be neglected. The fruit of the white mulberry has a sweetish and very insipid taste. Birds, however, are very fond of it.

2. *M. Indica*, the Indian mulberry, has ovate

oblong leaves, equal on both sides, but unequally serrated.

3. *M. nigra*, the common black-fruited mulberry-tree, rises with an upright large rough trunk, dividing into a branching and very spreading head, rising twenty feet high or more. It has large heart-shaped rough leaves, and monœcious flowers, succeeded in the females by large succulent blackberries. There is a variety with jagged leaves and smaller fruit. Considered as fruit-trees, this species is the only proper sort to cultivate here; the trees being not only the most plentiful bearers, but the fruit being larger and much finer flavored than that of the alba, which is the only other sort that bears in this country. It is exceedingly grateful to the taste, and is at the same time laxative and cooling. Like the other acid sweet fruits, it allays thirst (as Dr. Cullen observes), partly by refrigerating, and partly by exciting an excretion of mucus from the mouth and fauces; a similar effect is also produced in the stomach, where, by correcting putrescency, a powerful cause of thirst is removed. A syrup is made from the berries, gathered before they are ripe, which, taken as a gargle, is excellent for allaying inflammations of the throat, and for cleansing ulcers in the mouth. The bark of the root, which has an acrid bitter taste, possesses a cathartic power, and has been successfully used as a vermifuge, particularly in cases of tænia; the dose is half a drachm of the powder, or a drachm of the fusion. The juice of the fruit is also employed to give a color to certain liquors and confections. Some make from it an agreeable wine; others employ it for giving a high color to red wine, which it likewise contributes to make sweet. Although this juice is not used in dyeing, it gives a red color to the fingers and to linen, which is very difficult to remove. Verjuice, sorrel, lemon, and green mulberries, remove spots of this kind from the hands; but, with respect to linen, the best way is to wet the part which has been stained, and to dry it with the vapor of sulphur; the vitriolic acid which escapes from this substance during combustion instantly takes off the stain. The wood is yellow, tolerably hard, and may be applied to various uses in turnery and carving: but to separate the bark, which is rough, thick, thready, and fit for being made into ropes, it is proper to steep the wood in water.

4. *M. papyrifera*, the paper mulberry-tree of Japan, grows twenty or thirty feet high, having large palmated leaves, some trilobate, others quinquelobed; and monœcious flowers, succeeded by small black fruit. This species has its name from the paper used by the Japanese, being chiefly made of the bark of its branches. See **PAPER**. The leaves also serve for food to the silk-worm, and it is cultivated with success in France. It thrives best in sandy soils, grows faster than the common mulberry, and at the same time is not injured by the cold. M. de la Bouviere affirms that he procured a beautiful vegetable silk from the bark of the young branches of this species, which he cut while the tree was in sap, and afterwards beat and steeped. The women of Louisiana procure the same from the shoots which issue from the stock of the mul-

berry, and which are four or five feet high. After taking off the bark they dry it in the sun, and then beat it, that the external part may fall off; and the internal part, which is fine bark, remains entire. This is again beaten to make it still finer; after which they bleach it with dew. It is then spun, and various fabrics are made from it, such as nets and fringes: they even sometimes weave it and make it into cloth. The finest sort of cloth among the inhabitants of Otaheite, and others of the South Sea Islands, is made of the bark of this tree. See BARK.

5. *M. rubra*, the red Virginia mulberry tree, grows thirty feet high, is garnished with very large, heart-shaped, rough leaves, hairy underneath, and has monœcious flowers, succeeded by large reddish berries. This and the last species, as well as the *alba*, are here chiefly employed to form variety in our ornamental plantations, though abroad they are adapted to much more useful purposes.

6. *M. tinctoria*, dyer's mulberry, or fustic, has oblong leaves more extended on one side at the base, with axillary thorns. It is a native of Brasil and Jamaica. This is a fine timber tree, and a principal ingredient in most of our yellow dyes, for which it is chiefly imported into Europe. The berries are sweet and wholesome, but not much used, except by the winged tribe, by whose care it is chiefly planted. This and the last species, and the *Indica*, are tender plants in this country; but the other four are hardy, and succeed in any common soil and situation. The leaves are generally late before they come out, the buds seldom beginning to open till the middle, or towards the end of May, according to the season; and, when these trees begin to expand their foliage, it is a good sign of fine warm settled weather; the white mulberry, however, is generally forwarder in leafing than the black. The flowers and fruit come out soon after the leaves; the males in amentums, and the females in small roundish heads; neither of which are very conspicuous, nor possess any beauty but for observation. The female or fruitful flowers always rise on the extremity of the young shoots, or short spurs; and with this singularity, that the calyxes of the flowers become the fruit, which is of the berry kind, and composed of many tubercles, each of them furnishing one seed. The fruit matures here gradually from about the 15th August to the 15th September. In dry warm seasons they ripen in great perfection; but in very wet weather they ripen indifferently, and prove devoid of flavor.

MORWARA, a town of Hindostan, in the province of Gujerat, governed by an Hindoo chief of the Rajpoot tribe: the surrounding country is often plundered by the Coolies. It is situated thirty miles S. S. W. from Theraud.

MOSAIC, *adj.* Fr. *mosaique*. Supposed to be corrupted from Lat. *musæus*, or Greek *μουσεος*.

Mosaick is a kind of painting in small pebbles, cockles, and shells, of sundry colours; and of late days likewise with pieces of glass figured at pleasure; an ornament, in truth, of much beauty, and long life, but of most use in pavements and floorings.

Wotton.

Each beauteous flower,

Iris all hues, roses, and jessamin,
Reared high their flourished heads between, and wrought

Mosaick.

Milton's Paradise Lost.

The most remarkable remnant of it is a very beautiful *mosaick* pavement, the finest I have ever seen in marble; the parts are so well joined together, that the whole piece looks like a continued picture.

Addison on Italy.

MOSAIC WORK is an assemblage of pieces of glass, marble, precious stones, &c., of various colors, cut square, and cemented on a ground of stucco, in such a manner as to imitate the colors and gradations of painting. Critics are divided as to the origin and reason of the name. Some derive it from *Mosaicum*, a corruption of *musæicum*, as that is of *musivum*, as it was called among the Romans. Scaliger derives it from the Greek *μουσα*, and imagines the name was given to this sort of work as being very fine and ingenious. Nebricensis is of opinion it was so called because 'ex illis picturis ornabantur musea.'

MOSAIC WORK IN GLASS.—In a very amusing work of the celebrated Göthe, entitled *Winkelmann und sein Jahrhundert*, it is stated that about 15,000 varieties of color are employed by the workers in mosaic in Rome, and that there are fifty shades of each of these varieties, from the deepest to the palest, thus affording 750,000 tints, which the artist can distinguish with the greatest facility. We should imagine, with the command of 750,000 tints of color, that the most varied and beautiful painting might be perfectly imitated; yet this is not the case, for the mosaic workers find a want of tints even amidst this astonishing variety.

The enamel, consisting of glass mixed with metallic coloring matter, is heated at the manufactory for eight days in a furnace, each color in a separate pot. The melted enamel is taken out with an iron spoon, and poured on a polished marble placed horizontally; and another flat marble slab is laid upon the surface of the melted enamel, so that the enamel cools into the form of a round cake, of the thickness of three-tenths of an English inch.

In order to divide the cake into smaller pieces, the cake is placed on a sharp steel anvil, called *Tagliuolo*, which has the edge uppermost, and a stroke of an edged hammer is given on the upper surface of the cake; the cake is thus divided into long parallepipeds, or prisms, whose base is three-tenths of an inch square; and these parallepipeds are again divided across their length by the *tagliuolo* and hanmer into pieces of the length of eight-tenths of an inch, to be used in the mosaic pictures. The cakes are sometimes made thicker, and the pieces larger.

For smaller pictures, the enamel, whilst fused, is drawn into long parallepipeds, or quadrangular sticks; and these are divided across by the *tagliuolo* and hammer, or by a file; sometimes also these pieces are divided by a copper blade and emery; and the pieces are sometimes polished on a horizontal wheel of lead with emery.

Gilded mosaic is formed by applying the gold leaf on the hot surface of a brown enamel, immediately after the enamel is taken from the fur-

nace; the whole is put into the furnace again for a short time, and when it is taken out the gold is firmly fixed on the surface. In the gilded enamel used in mosaic at Rome there is a thin coat of transparent glass over the gold.

To apply these several pieces, and out of them to form a picture, first procure a cartoon or design to be drawn; this is transferred to the ground or plaster by calking, as in painting in fresco. See *Fresco*. As this plaster is to be laid thick on the wall, and therefore will continue fresh and soft a considerable time, so there may be enough prepared at once to serve for as much work as will take up three or four days. This plaster is composed of lime made of hard stone, with brick-dust very fine, gum tragacanth, and whites of eggs: when this plaster has been thus prepared and laid on the wall, and made the design of what is to be represented, they take out the small pieces of glass with a pair of pliers, and range them one after another, still keeping strictly to the light, shadow, different tints, and colors, represented in the design before; pressing or flattening them down with a ruler, which serves both to sink them within the ground and to render the surface even. Thus, in a long time, and with a great deal of labor, they finish the work, which is the more beautiful in proportion as the pieces of glass are more uniform, and ranged at an even height. Some of these pieces of mosaic work are performed with that exactness, that they appear as smooth as a table of marble, and as finished as a painting in fresco; with this advantage, that they have a fine lustre, and will last for ages. The best works of this kind that have remained till our time, and by which the moderns have retrieved the art, which was in a manner lost, are those in the church of St. Agnes, formerly the temple of Bacchus, at Rome; and some in Pisa, Florence, and other cities of Italy. The most esteemed among the works of the moderns are those of Joseph Pine and the chevalier Lanfranc, in the church of St. Peter at Rome: there are also very good ones at Venice.

MOSAIC WORK OF MARBLE.—The ground of mosaic works, wholly marble, is usually a massive marble, either white or black. On this ground the design is cut with a chisel, after it has been first calked. After it has been cut of the depth of an inch or more, the cavities are filled up with marble of a proper color, first fashioned according to the design, and reduced to the thickness of the indentures with various instruments. To make the piece thus inserted into the indentures hold fast, whose several colors are to imitate those of the design, they use a stucco composed of lime and marble dust; or a kind of mastic which is prepared by each workman after a manner peculiar to himself. The figures being marked out the painter or sculptor draws with a pencil the colors of the figures not determined by the ground, and in the same manner makes strokes or hatchings in the place where shadows are to be: and, after he has engraven with the chisel all the strokes thus drawn, he fills them up with a black mastic, composed partly of Burgundy pitch poured on hot; taking off afterwards what is superfluous with a piece

of soft stone or brick, which, together with water and beaten cement, takes away the mastic, polishes the marble, and renders the whole so even that one would imagine it only consisted of one piece. This kind of mosaic work is used in large works, as the pavements of churches, basilicas, and palaces, and in the veneering of the walls. It is seen in the fine church of the invalids at Paris, and the fine chapel at Versailles.

MOSAIC WORK OF PRECIOUS STONES.—For this purpose, other and finer instruments are required than those used in marble; as drills, wheels, &c., used by lapidaries and engravers on stone. As none but the richest marbles and stones enter this work, to economise them they are sawn into the thinnest leaves imaginable, scarcely exceeding half a line in thickness: the block to be sawn is fastened firmly with cords on the bench, and only raised a little on a piece of wood, one or two inches high. Two iron pins which are on one side the block, and which serve to fasten it, are put into a vice contrived for the purpose; and with a kind of saw or bow made of fine brass wire, bent on a piece of spongy wood, together with emery steeped in water, the leaf is gradually fashioned by following the stroke of the design, made on paper and glued on the piece. When there are pieces enough fastened to form an entire flower, or some other part of the design, they are applied to the ground. The ground which supports this mosaic work is usually of free stone. The matter with which the stones are joined together is a mastic, or kind of stucco, laid very thin on the leaves as they are fashioned; and, this being done, the leaves are applied with pliers. If any contour, or side of a leaf, be not either squared or rounded sufficiently, so as to fit the place exactly into which it is to be inserted, when it is too large, it is to be brought down with a brass file or rasp; and, if it be too small, it is managed with a drill and other instruments used by lapidaries. This kind of mosaic work is only used in small works, as ornaments for altar pieces, tables for rich cabinets, precious stones being so very expensive.

MOSAIC WORK OF THE FEATHERS OF BIRDS, &c.—In Clavigero's History of Mexico is described a curious kind of mosaic work made by the ancient Mexicans of the most delicate and beautiful feathers of birds. They raised for this purpose various species of birds of fine plumage with which that country abounds, not only in the palaces of the king, where there were all sorts of animals, but likewise in private houses; and at certain seasons they carried off their feathers to make use of them in this kind of work, or to sell them at market. They set a high value on the feathers of those birds which they call *huitzitzilin*, and the Spaniards *picafloros*, on account of the smallness, the fineness, and the various colors of their plumage. In these and other beautiful birds, nature supplied them with all the colors which art can produce, and also some which art cannot imitate. At the undertaking of every mosaic work several artists assembled. After having agreed upon a design, and taken their measures and proportions, each artist charged himself with the execution of a certain part of the image, and exerted himself to it with such

patience and application, that he frequently spent a whole day in adjusting a feather; first trying one, then another, viewing it sometimes one way, then another, until he found one which gave his part that ideal perfection proposed to be attained. When the part which each artist undertook was finished, they assembled again to collate the entire image. If any part was accidentally deranged, it was wrought again until it was perfectly finished. They laid hold of the feathers with small pincers, that they might not injure them, and pasted them on the cloth with tzautili, or some other glutinous matter; they then united all the parts upon a little table, or a plate of copper, and flattened them softly, until they left the surface of the image so equal and smooth that it appeared to be the work of a pencil. These were the images so much celebrated by the Spaniards and other European nations. 'These images,' says Acosta, 'are deservedly admired; for it is wonderful how it was possible, with the feathers of birds, to execute works so fine and so equal, that they appear the performance of the pencil; and what neither the pencil nor the colors in painting can effect, they have, when viewed from a side, a most beautiful appearance, so lively and animated. Some Indians, who are able artists, copy whatever is painted with a pencil so perfectly with plunage, that they rival the best painters of Spain.' Cortes, Bernal Diaz, Gomara, Torquemada, and all the other historians who saw them, were at a loss for expressions sufficient to praise their perfection. Several works of this kind, our author says, are still preserved in the museums of Europe, and many in Mexico; but few, he apprehends, belong to the sixteenth century, and still fewer, if any, are of those made before the conquest. The mosaic works also which the Mexicans made of broken shells were extremely curious: this art is still practised in Guatimala.

MOSAMBIQUE, a city and sea-port, the principal settlement of the Portuguese on the east coast of Africa, stands on an island of the same name, which, with several others, forms the best harbour on this coast, the depth being four fathoms and a half at low water. The country round is low, with groves of cocoa-nut trees. Fresh water is scarce, there being but two wells not brackish, one on the island and the other on the main; provisions are also dear, the settlement chiefly depending on Madagascar. 10,000 slaves were annually exported from hence to a late period, and chiefly to Portuguese America, besides ivory, gold dust, columbo root, ambergis, amber, and cowries. A considerable contraband trade is also carried on by the English, though foreigners are prohibited trading.

The town is well fortified, and as usual in Portuguese colonies has a great number of churches and convents. About a musquet shot from the anchorage is the landing place, rendered very commodious by a pier built on arches, with steps on each side. The town is reckoned by Mr. Salt to contain 500 Portuguese, 800 persons of Arabian extraction, and 1500 negroes. The government house he describes as handsome, but the settlement on the whole

has few traces of its early importance. The octagonal fort, indeed, is strongly built, with six bastions, and defended by eighty pieces of cannon. These, however, are totally neglected, and the garrison consists merely of a few sentries, and some confined felons. Its state of defence was such, when the traveller just named was there, that an Arabian trader assured him that, with 100 stout Arabians, he would undertake to drive the Portuguese out of this boasted capital of their empire. It is, however, sufficiently strong to resist the Madagascar pirates.

The economy of the government-house retains remnants of its former splendor. Tea is set out in a service of pure gold in the evening, when the house is thrown open to all the principal inhabitants, who may then visit it, and are entertained with that beverage. The governor wears a very costly golden chain; and the negro attendants are almost bent beneath profuse ornaments of that metal. The governor and principal citizens have country houses at Mesuril, on the peninsula of Caboceiro, at the head of the bay. Beyond this the Portuguese have no settled dominion. Several chiefs, indeed, receive from them a formal investiture, and pay them a trifling tribute; among the principal of whom are the sheiks of Quintangone, St. Cul, and the queen of Sereima; the first of whom can bring 4000 or 5000 men into the field, the second 3000, and the third 1500. The former sheik of Quintangone being long at enmity with them, and having been accidentally taken prisoner, was fired from the mouth of a cannon, the memory of which has secured, it is said, the allegiance of his successor. These alliances, however, scarcely enable the government to make head against the Makooa; a powerful race, who sometimes extend their ravages to the peninsula of Caboceiro.

In his first voyage to India Vasco de Gama touched here, and found a large trading city. He was at first well received, but a plot was soon laid to destroy him and his followers, and he judged himself fortunate in being able to escape. In 1508 the Portuguese obtained permission to erect a fort and factory at Mosambique, by means of which they soon expelled the Arabs. Its vicinity to the gold mines, and its convenience as a station of refreshment to Indian ships, soon placed it at the head of their East African empire. This at one time was estimated at 2000 miles of coast, including the large and populous trading places of Sofala, Mosambique, Quiloa, Mombaça, and Melinda. Most of these have been successively wrested from them, and their dominion is now bounded by Cape Delgado on the north, and Cape Corrientes on the south, including no place of importance except Mosambique and Sofala.

MOSCHATEL. See **ADONA**.

MOSCHION, a name common to four different authors, whose compositions, characters, and native places, are unknown. Some fragments of their writings remain, some few verses, and a treatise, *De Mulierum Affectibus*.

MOSCHUS, a Grecian poet of antiquity, usually coupled with Bion. They were both contemporaries with Theocritus. In the time of the latter Grecians, all the ancient Idylliums were

collected and attributed to Theocritus; but the claims of Moschus and Bion have been admitted to some few minor pieces. All that is known about them is collected from their own remains. Moschus, by his elegy on Bion, has given the best memorials of Bion's life. Moschus and Theocritus have by some critics been supposed the same person; others will have Moschus as well as Bion to have lived later than Theocritus, upon the authority of Suidas: while others again suppose him to have been the scholar of Bion, and probably his successor in governing the poetic school; which, from the elegy of Moschus, does not seem improbable. Their remains are to be found in all the editions of the *Poetæ Minores Græci*.

Moschus, in zoology, a genus of quadrupeds of the order of pecora, having no horns. There are eight small cutting teeth in the lower jaw; in the upper, no cutting or fore teeth; but two long tusks, one on each side, projecting out of the mouth.

1. *M. Americanus*, or the Brasilian musk, is of a reddish-brown color, with a black muzzle and white throat, and scarcely so large as a roe-buck. The fur is soft and short; the color of the head and upper part of the neck is dark brown; the lower part of the neck and throat are white; the body and limbs are reddish-brown; the hind legs are longer than the fore. These animals, which inhabit Guiana and Brasil, are exceedingly timid, active, and swift. Numbers are often seen swimming in the rivers, and are then easily taken. The Indians hunt them, and their flesh is esteemed very delicate. The French of Guiana call them biches or does, because, notwithstanding their likeness to deer, both sexes are without horns.

2. *M. Javanicus*, the Javan musk, is of a ferruginous color on the upper parts of the body, and white all along the under; the tail is long and hairy, white below and at the tip; its legs are similar to those of the pigmy musk, and furnished with very small spurious hoofs. This and the *meminna* seem only varieties of the *pigmæus*.

3. *M. Indicus*, the Indian musk, has short hair of a tawny color on the upper, and whitish on the under, parts of the body; the tail is short, and the feet have spurious hoofs. They inhabit India; and are much of the same size with the *moschiferus*, but the tail is longer and more perceptible; the legs are very slender; and the head resembles that of a horse, with erect oblong ears.

4. *M. meminna*, or the Ceylon chevrotin, is seventeen inches long from the nose to the rump, and of a cinereous olive color; the throat, breast, and belly, are white; the sides and haunches spotted, and barred transversely with white; and the ears are large and open: the tail is very short; and the feet have no spurious hoofs. They inhabit Ceylon and Java.

5. *M. moschiferus*, the Thibet musk, has a bag or tumor on the belly, near the navel, and a very short tail almost hid in the fur. The length of the male is about three feet three inches from the nose to the origin of the tail, and about two feet three inches high at the shoulder; the female is

less than the male, has a sharper nose, has no tusks nor musk-bag, and is provided with two teats. The head resembles that of the roe: the fur is coarse, like that of the animals of the deer kind; but softer, very smooth, erect, plentiful, thick, and long: the color varies according to the age of the animal and time of the year; but is chiefly blackish-brown on the upper, and hoary, seldom white on the under parts of the body; the hoofs are long, black, and much divided, and the spurious hoofs of the fore-feet are very long. They inhabit the Asiatic Alps, especially the highest rocky mountains from the Altaic chain to that which divides Thibet from India; likewise in China and Tonquin, and in eastern Siberia; and about lake Baikal, and the rivers Jenisea and Argun. They avoid mankind, dwelling solitarily in the most precipitous places of the mountains, among rocks in the small narrow valleys surrounded by those snowy hills, and the pine forests which grow in their interstices. They are very gentle and timid animals, except in rutting time, when the males fight violently with their tusks for the females; they are exceedingly active in leaping, running, climbing, and swimming, and very difficultly tamed; the flesh is eatable, and that of the younger animals delicate. The chase of them is a trade equally difficult and hazardous; if pursued, they seek the highest tops of the snowy peaks, inaccessible to men or dogs. They take amazing leaps over the tremendous chasms of their Alps, and from rock to rock; treading so lightly on the snow, with their true and false hoofs extended, as scarcely to leave a mark; while the dogs which pursue them sink in, and are forced to desist from the chase. They are so fond of liberty as never to live long in captivity. They are mostly taken in snares, or shot by cross-bows placed in their tracks, with a string from the trigger for them to tread on and discharge. The Tungusi shoot them with bows and arrows. The skins are used for bonnets and winter dresses. The Russians often scrape off the hair, and have a way of preparing them for summer clothing, so as to become as soft and shining as silk. The noted drug, the musk, is produced from the male. The bag or follicle that contains it is situated near the prepuce; and is of a somewhat oval figure, flat on one side and rounded on the other, having a small open orifice. In young animals this bag is empty; but in adults it is filled with a clotted, oily, friable matter, of a dark brown color: this is the true musk, of which each bag contains from a dram and a half to two drams. The best comes from Thibet; that which is produced in Siberia having somewhat of the flavor of castor.

6. *M. pigmæus*, the pigmy musk, is marked as to color like the *Indicus*, but has no spurious hoofs. The body and head measure only nine inches and a half in length; the tail is about an inch long; and the legs are smaller than a man's finger. They inhabit the East Indies and several Indian islands; and are called *kant chel* by the Malayes, and *poet-jang* by the inhabitants of Java. The natives catch them in great numbers, carry them in cages to market, and sell them for 2½ d. a-piece. See Musk.

MOSCOW, an important government of European Russia, situated between 35° 10' and 38° 40' of E. long. and 54° 40' and 56° 30' of N. lat., is surrounded by the governments of Tver, Wladimir, Riazan, Tula, Kaluga, and Smolensko. Its area is about 10,000 square miles, and its population 1,126,000; or that of one of the most thickly peopled provinces of the Russian empire. It largely imports corn, owing to the consumption of the capital, and to the extent to which the country is laid out in orchards, gardens, and hop-grounds. Rearing of horses is a favorite object here. Most of the houses throughout the province are of wood, but some are of stone, and the working of the quarries affords a considerable employment. The trade and manufactures are chiefly confined to the capital. This province contains a number of small rivers and streams. The largest are the Oka, Moskva, and Kliasma, which are all navigable. It is divided into thirteen districts or circles.

Moscow, or *MOСКВА*, an immense city of European Russia, long the seat of the government, and still the capital of the whole interior of the empire, is of an oval form, having its length from north to south, its breadth from east to west. Its extent, exclusive of the suburbs, is three miles by two and a half; but with the suburbs it is above five miles by four, having a circumference of more than twenty miles, or about equal to the circuit of London, Southwark, and Westminster collectively. This space is however occupied greatly by spacious courts, gardens, and other open areas. The houses of the lower orders are of one story only, and the streets are wide. The river Moskva or Mousqua, flowing with a serpentine course from west to east, receives, towards the middle of the town, a rivulet called the Neglina, and soon after the Jausa. Both of these flow in from the north. Of the buildings, by far the greatest part are to the north of the Moskva.

Dr. Clarke thus describes it, as it appeared before the catastrophe of 1812: 'Moscow is in every thing extraordinary; as well in disappointing expectation as in surpassing it; in causing wonder and derision, pleasure and regret. Numerous spires glittering with gold, amidst burnished domes, and painted palaces, appear in the midst of an open plain, several versts before you reach the city. One might imagine all the states of Europe and Asia had sent a building by way of representative to Moscow: and, under this impression, the eye is presented with deputies from all countries holding congress; timber huts from regions beyond the Arctic; plastered places from Sweden and Denmark, not white-washed since their arrival; painted walls from the Tyrol; mosques from Constantinople; Tartar temples from Bucharia; pagodas, pavilions, and virandas from China; cabarets from Spain; dungeons, prisons, and public offices from France; architectural ruins from Rome; terraces and trellises from Naples; and warehouses from Wapping. Having heard accounts of its immense population, you wander through deserted streets. Passing suddenly towards the quarter where the shops are situated,

you might walk upon the heads of thousands. The daily throng is there so immense, that, unable to force a passage through it, or assign any motive that might convene such a multitude, you ask the cause; and are told that it is always the same. Nor is the costume less various than the aspect of the buildings; Greeks, Turks, Tartars, Cosacks, Chinese, Muscovites, English, French, Italians, Poles, Germans, all parade in the habits of their respective countries. Taken altogether, continues our lively traveller, 'it is a jumble of magnificence and ruin; old buildings repaired, and modern structures not completed; half-open vaults, and mouldering walls, and empty caves, amidst white-washed brick-buildings, and towers and churches with glittering gilded, or painted domes. In the midst of it some devotees are daily seen entering a little mean structure, more like a stable than a church. This, they tell you, is the first place of Christian worship erected in Moscow. It was originally constructed of the trunks of trees, felled upon the spot, at the foundation of the city; but now it is of brick, built in imitation of the original wooden church. Its claims to antiquity cannot be great, as, according to accounts published in our own country, the whole city of Moscow was burned by the Tartars of the Crimea, on the 24th of May, 1571: the old wooden church was probably then destroyed. There is nothing within the structure worthy of notice. The view of Moscow from the terrace in the Kremlin, near the spot where the artillery is preserved, would afford a fine subject for a panorama. The number of magnificent buildings, the domes, the towers, and spires, filling all the prospect, make it, perhaps, the most novel and interesting sight in Europe. All the wretched hovels and miserable wooden buildings, which appear in passing through the streets, are lost in the vast assemblage of magnificent edifices: among these the Foundling Hospital is particularly conspicuous. Below the walls of the Kremlin, the Moskva, already become a river of importance, is seen flowing towards the Volga. The new promenade forming on its banks, immediately beneath the fortress, is a superb work, and promises to rival the famous quay at St. Petersburg. It is paved with large flags, and is continued from the stone bridge to another, peculiarly called the Moskva Bridge, fenced with a light, but strong iron palisade, and stone pillars, executed in very good taste. A flight of stairs leads from this walk to the river, where the ceremony of the benediction of the water takes place. Another flight of wooden steps leads through the walls of the Kremlin, to an area within the fortress.'

Another English traveller, Mr. James, who visited Moscow in June 1814, thus describes the coup d'œil of the city from the Petrovsky Palace: 'It was from the road, as it passes under the turrets of the Petrovsky Palace,' says he, 'that we first beheld the thousands of domes and steeples that yet glittered among the relics of Moscow; and a short hour brought us to the barriers. At our first entrance, only a few occasional symptoms of the conflagration (of 1812) occurred, and little that was of a nature to correspond to the gloomy appearance which we had

been led to expect. But, as we advanced, the quarters of the Slabode, or fauxbourg, where wood had chiefly been used in building, exhibited destruction in its fullest extent,—for the most part, a campagne rasée. Now and then, the shell of a house was seen standing in a blank space; or here and there a few brick stoves, yet remaining, pointed out the spot where a dwelling once had been. Moving onwards, we crossed the avenues of the boulevards: the trees were in full leaf and beauty, seeming to vary the view only to heighten its melancholy aspect. Leaving this, we passed to the central parts of the town, that were constructed with more durable materials, exhibiting occasionally a richness and elegance of exterior that must have equalled, if not surpassed, the architectural magnificence of the most beautiful towns of Europe. But all was now in the same forlorn condition; street after street greeted the eye with perpetual ruin; disjointed columns, mutilated porticos, broken cupolas, walls of rugged stucco, black, discolored with the stains of fire, and open on every side to the sky, formed a hideous contrast to the glowing pictures which travellers had drawn of the grand and sumptuous palaces of Moscow. The cross lanes looked, even at this interval, as if unused to the sound of the human tread. The grass had sprung up amidst the mouldering fragments scattered over the pavements; while a low smoke, issuing perhaps from some obscure cellar corner, gave the only indications of human habitation, and seemed to make desolation visible.

‘There are few towns whose quarters present a more simple plan of distribution. The ancient Kremlin and Kitaigorod are situated on a central eminence above the river Moskva; and around these, as a nucleus, the circles of the Beligorod, the Semlianogorod, and the Slabode or fauxbourg, are severally discernible, marking by their lines the growth of the place in successive eras. The Kitaigorod, or Tartar town, besides some religious buildings, contains within its walls the public exchange and the chief houses of trade. All these had been completely gutted by the fire, but the spirit of the place still remained: shops and stalls, and tents of every denomination, were erected amidst the ruins; and the chief street was even now the theatre of much bustle and activity. The Kremlin is a large walled circle, containing many old churches, as well as the public offices and apartments of state; and hither we made a daily visit, as to a point that afforded the only specimen of the ancient magnificence of the capital of the grand dukes and the czars. It stood uninjured amidst the flames of the late conflagration; but the barbarous fury of Buonaparte attacked whatever Russian piety had spared; and, with unutterable malignity, he marked out for devastation some of the fairest portions of this proud citadel. The most peremptory command was given to the detachment occupying the Kremlin, after his departure, to discharge their orders with despatch; the mines were prepared, and at two o’clock on the last night of their stay this horrid purpose was carried into execution. By the first two explosions, part of the walls and one of the towers

towards the river were destroyed; by the third the church of St. Nicholas and the four great bells of Moscow were blown up with tremendous violence; at the same moment the lofty tower of Ivan Veliki, the first of the czars, was rent from the top to its base, and the cross of the cupola crowning its summit buried in ruin below. The fourth shock was by far the most dreadful; the walls of the arsenal, which were upwards of three yards in thickness, with a part of the gate of St. Nicholas, and several adjoining pinnacles, were at once blown into the air, a concussion succeeding, that shook the whole city to its foundations.

‘A short time previously to the breaking out of the war, a ukase was issued by the emperor, ordering three and thirty churches at Moscow to be pulled down; by no means an unreasonable step, since the total number in the city and suburbs amounted to 2000, and many of them were in a dilapidated state. The common people, however, very generally entertained the idea, that their late calamities were owing to this act of impiety. The emperor has now vowed to erect a new church at Moscow, in commemoration of the deliverance of Russia, for which a design has been given by Mr. Wilbers, formerly a pupil of the academy at St. Petersburg. A column, formed out of the cannon taken from the French, forms part of the design. The imperial palace, which stands on a point commanding the whole town, was the residence, as before stated, of Buonaparte. But even these walls, that had formed his abode, were given to destruction by his orders, and now showed themselves in the most forlorn condition, stripped of every article, and completely gutted from top to bottom. The same scene of waste was exhibited in an interesting antique edifice, containing the chamber of the throne. As the public hall of audience, at the coronation of the czars and emperors, it had been often made the scene of festivities in this most pompous and splendid court. But now not a vestige of ancient ornament could any where be traced; the activity of devastation had been great, and scarcely a beam or a stone rested one on the other. The other parts of the Kremlin remained untouched, and it was impossible to conceive a more imposing spectacle than was here afforded. A high terrace overhung the walls towards the river, at the extremity of which, to the left, appeared the fantastical structure of the Trinity Church, and the awe-commanding portals of the Holy Gate, through which every passenger walks bare-headed. At the other end was a cluster of domes rising from the church of St. Nicholas, that of the Assumption, and the chapel and palace of the czars, with the lofty temple of Ivan Veliki towering far above them all, and reflecting the beams of the sun from a globe of gold. The palace of the czars does not boast an antiquity of more than 200 years; but it is an edifice raised with princely costliness in the carved work with which that style abounds. This was one of the most showy examples of the gorgeous architecture of the Kremlin, though the whole circle offered an assemblage of bright, gay colors, and a display of gaud and richness that vied with the wealth of

Ormus and of Ind. The cupolas and roofs were gilt, or stained green or red, the walls and towers covered with glazed tiles of blue, and white, and yellow; in other parts adorned with storied paintings from Holy Writ; while a me-lange was seen on every side, of pear-shaped domes, Tartar battlements, Gothic tracery, Cre-zian columns, the star, the crescent, and the cross. Looking below, we beheld the stream of the Moskva, winding its course amidst the streets and houses of the town, all indeed now in ruin, but still interspersed with many a glittering steeple, with cottage, garden, and palace, inter-mixed, and offering to view the endless variety of a Russian city. This scene was backed by an extensive landscape on the west, dotted with country houses and monasteries, and surmounted by the long gloomy line of the Sparrow Hills, over which the French army first showed them-selves, before the work of abomination was begun.

Moscow consists of four divisions, circular or semicircular, each surrounding the other, and each increasing in circuit, in proportion to its distance from the centre. 1. The central, or court and mercantile quarter, containing the Kremlin and the Kitaigorod. 2. The Bielogorod, or White town, extending around the central part like a half moon, deriving its name from the white stone walls which surrounded it till 1767. 3. The Semliano-gorod, or Earthen town, much more extensive than either of the preceding, and surrounding them both. It derived its name from its former earthen ramparts. 4. The Slobodes, or suburbs, which, to the number of nearly thirty, surround the whole.

The Kremlin stands so high as to command a prospect over almost the whole city. The Moskva flows past it, and is crossed by two bridges. Here is the famous ancient palace of the czars, which so narrowly escaped the conflagration of 1812, and is now rebuilt with improvements. Here also is the church of St. Michael, containing the tombs of the czars, and the church of the Assumption of the Virgin Mary, in which the emperors are crowned. The Kremlin contains several other churches and monasteries with gilded cupolas.

The Kitaigorod, or Chinese town, is said to have derived its name from the trade it formerly carried on with China. Here are the bazaars and shops, as also the only street of this city in which the houses adjoin each other. Though of small extent, the Kitaigorod contains several public buildings; as, a strong brick edifice for the public archives; the printing-house of the synod; the university, founded in the middle of the eighteenth century; and the Krasnaga Ploshchael, or Beautiful Place, one of the most singular and most handsome squares in Europe. It is 1260 feet long, by 434 broad. Here also is the dead-fish market, a great curiosity. No sooner has the winter so far advanced that the sledge-roads are passable, than a large supply of fish is regularly brought from Archangel, and from a great lake in the government of Novogorod. These are here piled up like walls, snow serving to fill the interstices. The sterlet, sturgeon, and beluga, or great sturgeon, are always in great

supply. The more important shops, besides being locked at night, are all sealed up, a piece of cord or thread being twined round the pad-lock, and soft wax with an impression affixed over the ends or on the door. A Russian, according to Dr. Lyall, will much less readily break a seal than a lock.

The Bielogorod contains several of the widest streets of Moscow; the arsenal and cannon foundry; the foundling hospital; bible society house; the fruit market, and provision market. No building erected since the calamity of 1812 excites more surprise in Moscow than the Exercise-house, erected here in 1817. This enormous edifice is 560 feet in length, the breadth at each end is 168 feet, and the height from forty-two to forty-three and a half feet. The mechanical construction of the roof is admirable; although of such length, breadth, and weight of materials, it rests merely on the walls. A considerable part of this quarter escaped the great conflagration.

The Semliano-gorod has also wide streets, and contains, from its magnitude, a large proportion of the population. The most singular edifice here is the Vinnoi Dvore, the depôt for votki, a spirituous liquor, occupying two large squares. 'In this great magazine are deposited the spirits, or votki, made at the distilleries belonging to the crown, or brought from the country by the distillers, and sold to the crown, according to special regulations. From this depôt all Moscow and its neighbourhood, that is, all the drinking-houses as well as private individuals, are supplied with votki in abundance. The buildings have enormously thick walls, and are all vaulted. In them and the court-yards are lodged thousands of barrels of the precious votki, the nectar of the Russian peasants, which is measured in strength by the hydrometer, and sold according to law. Good votki by no means deserves the reproach thrown upon it by some travellers. As sold in the kabaks and in the shops it is generally diluted and adulterated, and certainly is a fiery, slowly operating poison. It resembles Scotch whiskey. It is a kind of proof spirit, according to pharmaceutical phraseology. It is called brandy by the mistakes of travellers, and sometimes Russian brandy.'

The Slobodes, or suburbs, are mean, and look like so many detached villages, with the exception of one called the Nemetska Sloboda, or German suburb, which is inhabited by a number of foreign mechanics. Here is the monastery of Spaso Androniéf, remarkable for its fine spire, which has a massy foundation, and consists of four stories. The first, which is very elevated, has a tower, surmounted on each side by a cross; through this is a high, elegant, arched entrance, with a fine iron gate, over which is an image of our Saviour, called the image not made with hands. The second story is adorned with columns of the Doric order; the other two stories, with Corinthian columns, and with arches for the bells. The spire terminates in a tapering pear-shaped head, with tinted sides, over a ball, and bearing a highly gilded cross.

The police of Moscow is on a very good military footing; all its agents wear a uniform. The city is divided into twenty-four districts, each

under a police court, with a major at its head : the armed force consists of dragoons, to which there are sometimes added Cossack patrols. In each of the courts in the twenty-four quarters is a high tower ; and stationed sentinels, to give the alarm on the first discovery of a fire, a calamity of frequent occurrence here.

The churches and the treasury in the Kremlin were stript of their most precious ornaments in 1812, prior to the entry of the French : the persons belonging to the public establishments, such as the university, the seminary for the daughters of noblemen, and the foundling-hospital, were removed to Kasan, in the interior ; and barks, loaded with corn, were sunk in the Moskva, to prevent their cargoes falling into the enemy's hands. The decisive battle of Borodino being fought on the 8th of September, about seventy miles from Moscow, the hospitals of the city were soon filled with wounded : many of whom perished afterwards in the flames. When the retreat of the Russian army became known, a general movement took place in Moscow ; and the roads, in all other directions but that of the enemy's march, became covered with fugitives ; those who remained saw at night the horizon illuminated to the westward, by their troops retiring before the French, and destroying the villages

When, on the 13th, the enemy drew near, the mass of the population of Moscow left their homes, and spread themselves over the country. Count Rostopchin, the governor, carefully concealing the project of destroying the city, sent a flag of truce to request the French to spare it. He then left the city, along with all the public officers ; and the vanguard of the French, on entering it on the 14th, were surprised at the silence which prevailed. The prisons were thrown open, and none were left but the few that were unable to fly, and those who remained for plunder, or to execute the orders of the governor. About five o'clock on Monday evening, the advanced guard of the French, under Murat, arrived, and immediate possession was taken of the Kremlin. Before night, Buonaparte arrived at the gate of Smolensko, where he actually waited for some time, expecting a deputation from the municipality, as he had been wont whenever he entered any captured town ; but none came. On sending to enquire the reason, he was told, Moscow was deserted. He sent one of his generals to make further search and enquiries. Not a Russian was to be seen ; not the least smoke rose from a single chimney ; not the slightest noise issued from this immense and populous city : its 300,000 inhabitants seemed to be struck dumb and motionless by enchantment ; it was the silence of the desert.

In the course of the ensuing night, Mortier pointed out to him smoke issuing from houses closely shut up, untouched and uninjured without. Flames shortly afterwards were seen in other quarters. On Tuesday evening they assumed a very serious aspect, and all efforts to stop them were in vain. The city appeared on fire in so many quarters, that the troops employed to stop the conflagration were distracted ; and, while thus employed, they were surrounded and in

great and immediate danger. Doubts had at first been entertained, whether the conflagration was accidental or not ; but now it was certainly known to be intentional. The wind, indeed, blowing strong, first from one quarter, and then from another, favored the designs of the incendiaries : and it was not until Saturday morning that it fell ; when the smoke gradually cleared off, and the extent of the desolation became visible.

At first the conflagration was represented throughout Europe as the work of the French ; but, from the authorities quoted by Dr. Lyall, it appears to have been undoubtedly a plan premeditated by the Russian governor Rostopchin. His object was to render Moscow totally unfit for the winter quarters of the enemy ; and in this he succeeded completely. At the same time it is to be added that the French, before their departure, sprang many mines, and thus added to the destruction of a fine city they could not retain. 'From all accounts,' says Dr. Lyall, 'we shall probably be very near the truth in concluding, that 7000 numeros, or courts, were destroyed in 1812 ; and that these numeros contained 7000 principal edifices, and at least 14,000 structures, making a grand sum total of 21,000 buildings.' The destruction of the Semlianogorod was so general, that, in a circuit of fifteen versts, not more than fifty habitable houses remained. The destruction of the Beligorod was not quite so general. The Kitaigorod was burning six days without intermission. In the Kremlin, the new imperial palace alone became the prey of the flames. None of the hospitals suffered ; but all the public education establishments, except one, fell a prey to the flames.

This review of the memorable attempt of the French emperor to combat with nature, or rather nature's God, as well as man, was necessary to explain the late and present situation of this city. Within a few months after the French left Moscow, orders were given to clear away the rubbish, and begin the rebuilding of the city. Thousands of workmen were employed in every street and lane ; and Moscow at present is said to present no traces of the dreadful calamity of 1812. It is rebuilt with considerable regard to consistency and taste, and no longer presents such numerous and strong contrasts of palaces and huts as it did before. The Kitaigorod, or quarter for the exchange and mercantile warehouses ; the more extensive quarter of the Semlianogorod ; and even the Slobodes, or suburbs, were all rebuilt before the close of 1818 ; and the population of Moscow was carried to nearly its former magnitude. The deficiency is in the mansions of the nobility ; many of these have not been rebuilt, having been on a scale too large for the income of their owners. Before the conflagration, the total of the registered edifices was 9158 ; in 1819 the number rebuilt, added to those that had been preserved, was about 7000.

Though the public buildings in Moscow are of stone, the great majority of the dwellings, since the rebuilding, it is to be regretted are of wood. A market, held in a large open space in one of the suburbs, exhibits a curious variety of materials for house-building ; they consist of

trunks of trees, cut, shaped, and morticed into one another. The person who wants a dwelling repairs to the spot, explains the number of rooms he requires, examines the different timbers, which are regularly numbered, and bargains for what suits him. The whole is either paid for on the spot, and then taken away by the purchaser, or the seller may agree to transport and erect it. A dwelling is often thus bought, transported, raised, and inhabited, in the space of a week. The new city has still wider streets than the old, and greater uniformity in all its buildings; the Asiatic taste is, however, preserved in the churches; but those lately erected are distinguished by a more simple and regular architecture. The streets are paved partly with stone, partly, as in other Russian towns, with trunks of trees. The university having been rebuilt was opened on the 11th of November 1818, and the former course of study resumed.

The Kremlin was, in 1817, completely repaired and enlarged by a long lateral building: its ramparts are replaced by beautiful alleys. This is the great dépôt of the curiosities of Moscow. It has the highest spire in the city, called the tower of Ivan, still amply replenished with bells, and which formerly contained the largest bell in the known world, the weight being above 200 tons. This fell to the ground in the last century, in consequence of the tower being burned, and is now considerably sunk in the earth, and fractured.

'Taken as a whole,' says Dr. Lyall, the Kremlé, or Kremlin, 'is one of the most singular, beautiful, and magnificent objects I have ever beheld. Its commanding situation on the banks of the Moskva River, its high and venerable white walls, its numerous battlements, variously colored towers, and steeples; the number and the magnificence of some of its fine edifices, with their differently painted roofs; the variety of its cathedrals, churches, monasteries, and bell-towers, with their almost innumerable domes, gilt, tin-plated, or green;—indeed the whole picture presents at the same time a varied unity,—a consonance and incongruity of objects,—a contrast of ancient and modern works of art and taste,—a beauty, grandeur, and magnificence indescribable and altogether unique. To be conceived it must be seen; and when seen it never fails to excite astonishment and delight.' All travellers agree that the view of the city from this place, especially from St. Ivan's Tower, surpasses every other in singularity and splendor.

Situated on the north side of the Moskva, which, in this part, bends into the form of a crescent, the shape of the entire Kremlin is triangular, the circumference about two miles. A high wall surrounds it, strongly built of brick, faced at the foundation with stone. There are five gates; at four of these there are steeples, and there are numerous watch towers. In passing through one of these, called Spaskiya Vorotui, or the Gate of Our Saviour, every male, from the sovereign to the peasant, takes off his hat, and remains uncovered; if a stranger neglects this, a sentinel directs or forces him to comply. Of the turrets with which the walls of the Kremlin are ornamented, almost all are of a square

base and pyramidal elevation, yet exhibiting different styles of architecture. The most interesting is that immediately to the south of Our Saviour's Gate, on which was anciently suspended the alarm bell, and from which the ancient sovereigns of Muscovy used to witness or superintend the infliction of punishments, and the celebration of festivals. There are no regular streets in the Kremlin, but three open spaces called plotchads, or squares, of a very irregular shape, and abundance of room otherwise, for the numerous carriages and foot passengers with which it is always crowded in summer. The houses have in general stone foundations: in all cases the superstructure now consists of brick stuccoed, and painted generally in gaudy colors. All the houses belong to the crown. Besides the government-offices, the Kremlin contains the palace, the senate-house, the arsenal, the imperial museum, and a number of cathedrals, churches, and monasteries, among which is the most splendid and most sacred edifice in the empire, viz. the cathedral of the assumption of the Virgin Mary. This was built in 1479, on the site of the original edifice, and exhibits a specimen of the Greco-Italian architecture of the period. It is loaded with ornaments to a most extravagant degree. On the walls are painted 249 full images, and 2066 half-lengths and heads, many larger than nature. There are said to have been employed in embellishing it 210,000 gold leaves. The lustres are particularly magnificent and costly. In the middle of the church is suspended a crown of massy silver, accompanied with forty-eight chandeliers, all of a single piece, and weighing nearly 3000 lbs. There are also numerous candlesticks, almost as high as a man, some of silver, others of silvered copper, holding candles as thick as a man's leg. The cathedral of St. Michael ranks next to this, and was the sepulchre of the czars to the close of the sixteenth century.

The palace of the czars within the Kremlin is the next object most worthy of notice. Dr. Lyall says that this edifice 'is probably the most notable instance of constant change and renovation among all the large and more ancient edifices of Moscow.' In 1820 it consisted of three parts; the ancient palace of the czars, the audience-chamber, and the new palace. The ancient palace was built by an Italian architect at the beginning of the sixteenth century; but the style of it is so singular that it has been called Grecian, Gothic, Tartar, and Hindoo. In the belvedere are two small arched rooms, which were the czar's peculiar apartments. They communicated, by a narrow staircase, with an observatory, 'a kind of royal police-box,' where, at a certain fixed hour, the czar daily took his station, while crowds of supplicants assembled in the courts below, deposited their petitions upon a large stone adjoining the small church called Spas na Baru. These petitions were brought to the sovereign, who examined them, and dictated the answers, which were in like manner laid on the same stone till the petitioners came to receive them. Peter the Great was born in the old palace.

The new palace was originally built in 1748

by the empress Elizabeth; but it has been repeatedly altered and enlarged. The empress Catharine formed the project of erecting a most magnificent palace in the Kremlin. The plan was actually executed, and a superb model of it exists in the Imperial Museum. This, according to Dr. Clarke, is one of the most curious things in Moscow. 'If the work had been completed,' he remarks, 'it would have been the wonder of the world. The architect who constructed the plan was a Russian who had studied at Paris. This model cost 50,000 rubles. The expense necessary for the accomplishment of the undertaking (as the architect Camporesi, who made the estimate, assures us), would have been 50,000,000 of rubles. The calculation laid before the empress stated the amount only at 20,000,000. The work was begun, but, it is said, the falling in of a part of the foundation determined the empress against its prosecution. The plan was to unite the whole Kremlin, having a circumference of two miles, into one magnificent palace. Its triangular form, and the number of churches it contains, offered some difficulties; but the model was rendered complete. Its fronts are ornamented with ranges of beautiful pillars, according to different orders of architecture. Every part of it was finished in the most beautiful manner, even to the fresco painting on the ceiling of the rooms, and the coloring of the various marble columns intended to decorate the interior. It encloses a theatre and magnificent apartments. Had the work been completed it would have surpassed the temple of Solomon, the propylæum of Amasis, the villa of Adrian, or the forum of Trajan.'

The apartments of the new palace are not very large; but they are furnished in a most superb manner. 'Inlaid floors of various figures and colors, of oak and other wood; beautiful Wilton and Russian carpets; tapestry-colored walls of all shades; immensely large looking-glasses, some of which have many flaws, and others are joined; tables of mahogany, of Siberian beech, of nat-wood, stained and unstained, gilt and un-gilt, of marble, of imitation lapis lazuli, and of malachite; chairs of the same woods, plain or covered with silk, and gilded; large crystal and bronze lustres, and a crowd of other ornaments, are all found here.' The audience-chamber, built at the close of the fifteenth century, was burnt in 1812; but it is now completely repaired and fitted up in its former style: its architecture is simple. The granovitaya palata, or square hall, from which the whole edifice takes its name, is a room about sixty-five feet square. 'In its centre rises an enormous square and highly gilt pillar, which loses itself by expansion into the arches, and with them supports the ceiling: the vaults are four in number, and each is crossed by a gilt twisted stucco cord, which has a good effect. Over each window are the arms of three of the governments of Russia. The walls are covered with crimson velvet, bronze chandeliers, and gilded ornaments, and the floor is overlaid with red cloth. Numerous lustres are suspended from the ceiling. The base of the central pillar is surrounded with shelves, on which, on great occasions, are arranged the gold and silver uten-

sils and vessels belonging to the court. The throne on the south side is equally elegant with that in the palace. The room is disfigured by a number of seats like an orchestra in one of the chambers. Opposite the throne and near the roof is a semi-lunar window, from whence the imperial family, when not present in the hall, could observe the ceremonies after the coronation in the cathedral of the assumption, or witness the reception of ambassadors by his majesty. When the court is at Moscow balls are frequently given in this hall. On occasion of a ball in 1818 it was illuminated by 3500 wax candles, and presented a most magnificent appearance.'

The church of St. Philip in the Kremlin contains the patriarchal treasury, the riches of which consist of manuscripts and books, mitres and sacerdotal dresses and ornaments, vessels for holy oil, &c. The most valuable manuscripts are those of the Slavonic New Testament, which date as far back as the eleventh and twelfth centuries. Dr. Lyall was shown 'a small parchment volume a good deal sullied, said to be the Gospel of St. Luke in his own hand-writing.' The vessels for the preparation of the holy oil consist of two large silver kettles or boilers, gilt inside, two feet and a half in diameter, which, together with silver stirrers and ladles, were presented to the synod by Catharine II. Between these boilers stands a large silver receiver, also a present of the empress. They weigh together upwards of 700 lbs. From the receiver the oil is emptied into sixteen elegant silver vases presented to the synod by the emperor Paul. The 'holy oil' is made once a year with great ceremony.

Dr. Lyall took pains to ascertain the history of the great bell of Moscow, and its exact size and weight. According to him it originally contained 8000 poods weight, and was cast in 1654. Being destroyed by fire it was recast, and 2000 additional poods of metal added to it in 1734. At this time it was actually suspended over the place where it was cast, at no great height. In 1737 the wooden edifice erected over it took fire, and the bell, becoming hot, was most probably cracked in consequence of cold water being thrown upon it to extinguish the flames. An inscription on it, recording its second casting, expressly states its weight to be 10,000 poods, equal to 360,000 English pounds. According to the measurement of Mr. Murray, an English engineer, the height, if it had been a full cast, would have been twenty-one feet: it is actually only twenty feet seven inches. The greatest diameter at the mouth of the bell is twenty-two feet eight inches. The top of the bell, or double ring, measures three feet one inch. Dr. Clarke makes the circumference sixty-seven feet four inches; the perpendicular height twenty-one feet four inches and a half; and the thickness of the metal, in its stoutest part, twenty-three inches. The top of the crack is five feet seven inches from the ground. The clapper, which lies at the foot of Ivan Veliki, is fourteen feet long. On festivals the peasants visit this bell as they would a sanctuary, regarding it as an act of devotion, and crossing themselves all the way as they descend and ascend to it.

Moscow has long been the seat of an archbishop: his palace is in the Kremlin, and contains the regalia of the empire, with the relics of the patriarchs of Russia; in particular the splendid robes worn by them in ancient days: likewise a number of precious stones. The treasury contains also the crowns of Kasan, Astracan, Georgia, and Poland; a collection of swords from Damascus, and saddles studded with pearls, sapphires, and turquoises. These valuable appendages were removed and placed in safety, before the entrance of the French; but the latter stript the Kremlin of the celebrated cross of St. Ivan, or John, and carried it in their retreat as far as, and even beyond Wilna, but abandoned it in the height of their disasters.

The population of Moscow in summer does not much exceed 200,000; but in winter it is nearly 300,000, partly by the resort of traders, and yet more by the arrival from the country of families of rank, with a countless host of servants; for Moscow, not Petersburg, is still the great resort of the Russian nobility. Every thing here is in curious extremes; the nobility live in magnificence, while the populace are shivering with cold and hunger; and eagerly devouring their portions of meagre soup, cooked in the open air: even one part of the domestics of the same mansion are gaudily dressed, while another part are in rags.

The processions and popular joy on the saints and festival days of the different churches and monasteries are highly characteristic of this part of the world. On the festivals of the cathedrals and monasteries of this city there is a holy procession from the cathedral of the Assumption, of a greater or smaller number of the clergy, according to the importance of the festival. They walk on foot, with uncovered heads, in regular order, accompanied by the holy banners, crosses, books, &c., and are protected from the crowd by the police and gens d'armes on horseback. The image of the saint to whom the church is dedicated is peculiarly distinguished, and numerous burning candles are placed before it.

The Donskoi monastery, in the suburbs, is one of the first class. Dr. Lyall gives the following lively picture of its festival, held on the 19th of August:—'The fête begins with the chiming of the bells and divine service, the completion of which is the signal for general mirth: in fact, for the commencement of a Bartholomew fair. Crowds of visitors arrive throughout the day, and pay their devotions before the image of the Donskaya, Holy Mother of God. In the evening, at the entrance under the north belfry, is placed an image of the Virgin Mary, with abundance of holy water. Every visitor makes his devotions before this image, is sprinkled with holy water by a priest, deposits his charity, and passes into the interior. I remarked that the peasantry are really sprinkled with dexterity and in very rapid succession, but that the priest slowly dropped the water from the end of the brush into the hands of the nobility, and with it they rubbed their faces. For some days preceding this fête, many hands are employed in erecting tents, puppet-shows, stands of various kinds, horizontal and vertical swinging machines,

—indeed, all the scenery which characterises a fair in England. On the plain before the monastery are grocers' stalls, cook-shops, fish-shops, taverns, and kabaks; and tea-tents, in which the gipsies sing, dance, &c. A great variety of fruit and vegetables is here to be found; and a number of circular elegant tents are elevated, around the interior of which are placed numerous great copper pots or tubs, filled with votki. The persons employed to sell this nectar of the day can scarcely answer the demands of the crowd, who, according to the quantity they purchase, receive it in a larger or smaller unglazed, shallow, earthen vessel, for which a deposit is given till returned. Spots of ground by the north wall of the monastery are covered with water-melons in great profusion. What attracts our greatest attention are crowds of peasantry every where squatted upon the field; men, women, and children, married and unmarried, forming different parties, and enjoying their various refreshments, while some others obtain a place within the drinking-tents or the tea-tents. All bellow forth their rude, untutored music, in merry chorus, especially after the votki has exhilarated their spirits, and the air resounds with the noise of revelry. In eating and drinking, dancing and singing, ogling and courting, enjoyment takes a hundred forms. Then come quarrels and abuse: drunkenness, and rolling, and tumbling, usually conclude the day. Such a fête is a perfect Russian scene, where much of the low national manners and customs of the people may be studied. The police are stationed every where about the monastery, to preserve order, and to regulate the procession of the innumerable carriages of the nobility, and especially of the merchants, who arrive at the monastery in the afternoon, perform their devotions, and then see the fair. As soon as the twilight approaches, the police interdict the sale of votki; but, when the weather is fine, great exertions are requisite to disperse the crowd, so that it is eleven or twelve o'clock at night before the curtain drops.'

Of the grand ceremonies at Lent and Easter, the third and most magnificent is celebrated two hours after midnight on the morning of Easter Sunday, and called the ceremony of the Resurrection. All the markets and shops of Moscow the night before are filled with flesh, butter, eggs, poultry, pigs, and every kind of food. Every foot-passenger has his hands and even his arms filled with provisions, and the droskies are ready to break down beneath their weight. Dr. Clark says, that this ceremony at Moscow exceeds every thing of the kind at Rome, not even excepting the papal benediction of the holy week. He thus describes the scene:—'At midnight, the great bell of the cathedral tolled; its vibrations seemed to be the rolling of distant thunder; and they were instantly accompanied by the noise of all the bells of Moscow. Every inhabitant was stirring, and the rattling of carriages in the streets was greater than at noon-day. The whole city was in a blaze; lights were seen in all the windows, and innumerable torches in the streets. The tower of the cathedral was illuminated from its foundation to its cross. The same ceremony takes place in all the churches; and what is

truly surprising, considering their number, they are all equally crowded. We hastened to the cathedral: it was filled with a prodigious assembly, consisting of all ranks of both sexes, bearing lighted wax tapers, to be afterwards heaped in rows upon the different shrines. The walls, the ceiling, and every part of the building, are covered with the pictures of saints and martyrs. At the moment of our arrival the doors were shut, and on the outside appeared Plato, the archbishop, preceded by banners and torches, and followed by all his train of priests, with crucifixes and censers, who were making, three times in procession, the tour of the cathedral, chanting with loud voices, and glittering in sumptuous vestments, bespangled with gold, silver, and precious stones. The snow had not melted so equally within the Kremlin as in the streets of the city; this magnificent procession was therefore constrained to move upon planks over the deep mud which surrounded the cathedral. After completing the third circuit, they all halted opposite the great doors, which were still closed; the archbishop with a censor then scattered incense against the doors and over the priests. Suddenly these doors were opened, and the effect was magnificent beyond description. The immense throng of spectators within, bearing innumerable tapers, formed two lines, through which the archbishop entered, advancing with his train to a throne near the centre. The profusion of lights in all parts of the cathedral, and, among others, those of the numerous chandeliers in the centre, the richness of the dresses, and the vastness of the assembly, filled us with astonishment. Having joined the suite of the archbishop, we accompanied the procession, and passed even to the throne; here the police-officers permitted us to stand among the priests, near an embroidered stool of satin placed for the archbishop. The loud chorus, which burst forth at the entrance to the church, continued as the procession moved towards the throne, and after the archbishop had taken his seat; when my attention was for a moment called off, by seeing one of the Russians earnestly crossing himself with his right hand, while his left was employed in picking my companion's pocket of his handkerchief. Soon after, the archbishop descended, and went all round the cathedral; first offering incense to the priests, and then to the people as he passed along. When he had returned to his seat, the priests, two by two, performed the same ceremony, beginning with the archbishop, who rose and made obeisance, with a lighted taper in his hand. From the moment the church doors were opened, the spectators had continued bowing their heads and crossing themselves, insomuch that some of the people seemed really exhausted by the constant motion of the head and hands.

'We had now leisure to examine the dresses and figures of the priests, which were certainly the most striking we had ever seen. Their long dark hair, without powder, fell down in ringlets, or straight and thick, far over their rich robes and shoulders; their dark thick beards also entirely covered their breasts. Upon the heads of

the archbishops and bishops were high caps, covered with gems, and adorned with miniature paintings set in jewels, of the crucifixion, the virgin, and the saints. Their robes, of various colored satin, were of the most costly embroidery, and even upon these were miniature pictures set with precious stones. Such, according to the consecrated record of ancient days, was the appearance of the high priests of old: holy men, standing by the tabernacle of the congregation in fine raiment, the workmanship of 'Bezaleel, the son of Uri, the son of Hur, of the tribe of Judah.' It is said, there is a convent in Moscow, where women are entirely employed in working dresses for the priests. After two hours had been spent in various ceremonies, the archbishop advanced, holding forth a cross, which all the people crowded to embrace, squeezing each other nearly to suffocation. As soon, however, as their eagerness had been somewhat satisfied, he returned to the sacristy, under a pretence of seeking for the body of Christ; where, putting on a plain purple robe he again advanced, exclaiming three times in a very loud voice, 'Christ is risen.'

'The most remarkable part of the ceremony now followed.—The archbishop, descending into the body of the church, concluded the whole ceremony by crawling round the pavement on his hands and knees, kissing the consecrated pictures, whether on the pillars, the walls, the altars, or the tombs; the priests and all the people imitating his example. Sepulchres were opened, and the mummied bodies of incorruptible saints exhibited; all of these underwent the same general kissing.'

Dr. Lyall reckons the population to have been in 1817, 312,000: of these 197,482 were males, and 114,518 females. In the same year the births amounted to 3437, and the deaths to 4463. In 1805, when the total population is supposed to have been 208,883, the nobility were reckoned at 12,165; the servants attached to their houses at 14,445; the slaves resident for a time at 45,155; those constantly resident at 12,540; priests, deacons, &c., with their wives, 3508; and foreigners 3811; of these last, upwards of 1000 were Germans.

A number of curious hackney-coaches are stationed in the streets. These vehicles are without tops, have mostly four wheels, and are provided either with a long bench, or one, two, or three separate seats, like armed chairs, placed sideways; these fares are so reasonable that servants occasionally use them upon errands to distant parts of the city. The coachman generally drives at the rate of eight or nine miles in an hour.

'There are such specimens of female loveliness among the nobility at Moscow,' says Sir R. K. Porter, 'that were I a Praxiteles, I need go no further to form my Venus! Before I came into this country,' he adds, 'I was led to believe that I should find the morals on a par with those of France. To me it seems totally the reverse. I never saw married people more happy, or apparently more affectionate towards each other. I never, in any country, met with young women more amiable and virtuous. Every country has

its mauvais sujets;—but, from what I have been able to judge, Moscow, for a city whose sole object is pleasure, possesses less of what is called fashionable vice than may be found in countries where more seeming austerity is practised.' Dr. Clarke and Dr. Lyall give, however, a much less favorable account of the state of morals here.

The manufactures of Moscow and its environs are silk, cotton, linen, paper, leather, and sugar; many of these establishments, being set on foot by individual noblemen, they are therefore liable to frequent fluctuations, and are often abandoned at the caprice of the founder or his family. Moscow is the grand entrepôt of the internal of the Russian empire. Riga and St. Petersburg send hither goods by the Baltic; Astracan affords a communication with the Caspian, and Odessa with the Black Sea; while furs and skins form here an important branch of commerce, both for domestic use and for export to the very heart of Asia. The Moskva is navigable in spring for barks, but in the rest of the year only for rafts.

Moscow possesses several scientific collections and societies: one of the most interesting of the former is an assemblage of Russian antiquities, and productions of India and China, made by a M. de Beauce. The medical profession is here filled in all its departments by foreigners.

The public officers are, besides those named, the military governor and the vice-governor, a civil governor, and the judges who preside in different courts, the business of which is conducted by written pleadings. There is here a criminal court; a tribunal of commerce, and several civil courts; together with boards for the management of public business. The number of ecclesiastics of all ranks is between 3000 and 4000.

The climate is subject to extremes, the thermometer frequently falling to 0° of Fahrenheit, and even 10° or 15° below it; while in summer it rises to 85°, 90°, and even 95°. Yet Moscow is not unhealthy; a free circulation of air is always secured: and the ground on which it stands is high.

This city was founded in the middle of the twelfth century, previous to which Kiev was the capital of Russia. It was enlarged in the thirteenth and fourteenth centuries; and taken in 1382, after a short siege, by Tamerlane. It subsequently fell more than once into the hands of the Tartars. Their last attack on it took place in 1571, when they set fire to the city, but were unable to force the Kremlin, to which the czar retired. Moscow was after this rebuilt with great splendor. In 1611 the Poles set the town on fire, 'so that there was nothing left but the castle.' Yet, in 1636, Olearius describes it as about three leagues in circumference, and containing above 40,000 houses. 'It is, out of all question,' he says, 'one of the greatest cities in Europe.' It remained for a century and a half the sole capital of Russia. It continued the frequent residence of the court, until the commencement of the reign of Catherine II., and is now considered twelve times as large as its rival St. Petersburg. It is in a direct line, 397 miles south-east of St. Petersburg, and 1042 east by north of Vienna. Long. 37° 33' E., lat. 55° 45' 45" N.

MOSELLE, department of the France, is formed out of the former district of Messin, French Luxembourg, and part of Germain Lorraine, and derives its name from the river Moselle, which crosses it from south to north. The chief place of this prefecture is Metz, and it is divided into four arrondissements; Metz containing 138,336 inhabitants; Briey 55,559; Sarguemines 105,036, and Thionville 74,661; being a total population of 373,592 souls on a surface of 2790 square miles. It is subdivided into twenty-seven cantons, and 566 communes, yielding a territorial revenue of 16,528,000 francs, forming part of the third military division, having a royal court and bishopric at Metz, and consisting of four electoral arrondissements, that send seven members to the chamber of deputies. This department is bounded on the north and north-east by the kingdom of the Netherlands; on the east by the department of the Lower Rhine; on the south by that of the Meurthe, and on the west by that of the Meuse.

It is generally a mountainous and woody country; but, along the course of the Moselle, this department presents some vast well cultivated plains, and fine meadow lands with good pasturage, and large fish ponds. The elevated parts are covered with forests, that are stocked with game of all kinds. The hills are well planted with fruit trees, and those on the left bank of the Moselle are covered with vines that yield wine of a good quality; the most esteemed is that of Say, Jussy, Dole, and St. Rufine. The soil produces abundance of grain, vegetables, hops, flax, and hemp; and the numerous nurseries that are found in this country prove the care of the inhabitants in cultivating the best sorts of fruit. The cultivation is chiefly by horses, and the supply more than sufficient; there are 132,070 hectares of forest land, chiefly oak and beech, and 4500 hectares of vineyards, the average produce of each hectare of arable land being twenty-five francs, sixty-five cent. The country also abounds in great and small game, such as wolves, various birds of passage, ortolans, &c. There are mines of iron, manganese, and coal; quarries of freestone, silicious graystone, quartz, plaster, crucible, and potters' clay, &c., likewise a few salt springs.

Manufactures are carried on here of clothing for the troops, common cloths, flannels, painted papers, hats, gold and silver lace, embroidery, pipes, glue, paper snuff-boxes, leather arms, scythe blades, and other ironmongery. There are also cotton and woollen spinning factories, refining houses for beet root, distilleries, considerable manufactures of warlike weapons, numerous forges and blast furnaces, glass houses, delf potteries, tile and lime kilns, brass foundries, &c. A considerable trade is carried on in wine, brandy, confectionary, honey, bacon, hams, wool, iron in oars, plate iron, nails, and building wood. The principal rivers are the Moselle and the Sarre navigable, the Chiers, the two Nièls, the Seille, the Orne, the Crune, and the Albe, and it is crossed by the great roads from Verdun, Nancy, Chalons, Strasburg, and Luxembourg.

MOSELLE, a considerable river of France, rises at the foot of the Taue, above the villa, e of Bus-

sang, in the arrondissement of Remiremont, department of the Vosges. Passing thence to Ramonchamp, Epinal, Chatel, Charmes, Bayon, Pont St. Vincent, Toul, Frouard, Pont-a-Mousson, Metz, Thionville, and Sierck, below which it enters the grand duchy of the Lower Rhine, waters Treves, Berncastel, and Trarbach, and falls into the Rhine at Coblenz. In its course, which is about 390 miles, it receives the waters of the Madon, the Meurthe, the Seille, the Ormes, the Sarre, and numerous other rivers. It begins to be practicable for floats near Dominartin in the department of the Vosges, and becomes navigable at Frouard in the Meurthe. The goods transported along it may be seen in the description of the department of the same name. It mostly flows between rocks over a sandy and gravelly bottom, and that with great rapidity; its waters are delightfully clear and fructifying.

MOSES, Heb. מֹשֶׁה, i. e. drawn up, the son of Amram, and great-grandson of Levi, was born in the year 1571 B.C. Pharaoh king of Egypt, perceiving that the Hebrews were become a formidable nation, had issued an edict commanding all the male children to be put to death. Jochebed, the mother of Moses, having, to avoid this cruel edict, concealed her son for three months, at length made an ark of bulrushes, daubed it with pitch, laid the child in it, and exposed him on the banks of the Nile. Thermuthis, the king's daughter, walking by the river's side, perceived the floating cradle, commanded it to be brought to her, and, struck with the beauty of the child, determined to preserve his life. In three years afterwards she adopted him for her son, called his name Moses, and caused him to be instructed in all the learning of the Egyptians. But his father and mother, to whom he was restored by a fortunate accident, were at still greater pains to teach him the history and religion of his fathers. Many things are related by historians concerning the first period of Moses's life, which are not recorded in the Old Testament. According to Josephus and Eusebius, he made war on the Ethiopians, and completely defeated them. They add, that the city Saba, in which the enemy had been forced to take refuge, was betrayed into his hands by the king's daughter, who became deeply enamoured of him, when she beheld from the top of the walls his valorous exploits at the head of the Egyptian army. But the truth of this expedition has been doubted. But from the sacred records we learn events of much greater importance, which commenced in the fortieth year of Moses's age. His leaving the court of Pharaoh, and visiting his oppressed brethren; his killing one of their oppressors, and consequent flight to Midian; his forty years' residence with Jethro, marriage with his daughter Zipporah, and birth of his son Gershom; his vision of the burning, but unconsumed bush; his mission by the Almighty to Pharaoh; his hesitation, and the miracles wrought with his rod to encourage him; his meeting with his brother Aaron; their reception by the Egyptian tyrant, and consequent increase of the Hebrews' tasks; their miracles wrought to convince him without effect; the threatenings and execution of the ten plagues; 1. By the change of the waters of Egypt into blood; 2. By

swarms of frogs; 3. Of lice; 4. Of flies; 5. By pestilence among the cattle; 6. By ulcers and fiery boils; 7. By a dreadful storm of thunder, lightning, and hail; 8. By swarms of locusts; 9. By thick darkness; and, 10, by the death of the first-born; with Pharaoh's reluctant consent to liberate the Hebrews; his pursuit of them, and destruction in the Red Sea; are particularly recorded in Exod. ii.—xx. Profane authors, who have written of Moses, seem to have been partly acquainted with these mighty wonders. That he performed miracles has been allowed by many, by whom he was considered as a famous magician; and he could scarcely appear in any other light to men who did not acknowledge him for the messenger of the Almighty. Both Diodorus and Herodotus mention the distressed state to which Egypt was reduced by these terrible calamities. The subsequent history of Moses and the Israelites we have from the same authentic records. Their journeyings and various encampments in the wilderness; their battles with the Amalekites; their arrival at Mount Sinai; Moses's reception of the law from the Almighty; the idolatry of the people while he was on the mount, which made him break the tables; their punishment; his receipt of the two tables a second time; his illuminated appearance on his return; his erection and consecration of the tabernacle, which served instead of a temple till the building of the famous one by Solomon; his consecration of Aaron and his sons, and the Levites, to the priesthood; his theocratic government of the Hebrews, under the immediate authority and direction of the Almighty, with their repeated murmurings; his dying blessing upon them, with his prophecy of our Saviour; his distant view of the promised land from Mount Pisgah, and his death, are recorded, with other important particulars, in the last four books of the Pentateuch. He died, without sickness or pain, in the 120th year of his age, and 1451 years B.C. Moses is incontestably the author of the first five books of the Old Testament, which are acknowledged to be inspired by the Jews, and by Christians of every persuasion. Thomas Paine and others, however, have denied that Moses was the author of these books, because he always speaks of himself in the third person. But this manner of writing is not peculiar to Moses; it occurs in several celebrated ancient historians, such as Xenophon, Cæsar, Josephus, &c., who have thus evidenced more modesty and good sense than some modern historians, whose egotism is altogether disgusting.

MOSES (Chorenensis), an historian and geographer, archbishop of Chorene in Armenia A. D. 462. He translated several Greek works into the Armenian, was well acquainted with the Syriac, and a proficient in music and poetry. His chief work, *A History of Armenia*, from the deluge to the middle of the fifth century, was published with a Latin version by John and William Whiston, sons of William Whiston, in 1736, and though mixed up with fable contains many authentic particulars not elsewhere to be found. He was also the author of an *Abridgment of Geography*, published at Amsterdam 1668, and several canticles, which are sung in

Armenian on the anniversary of Christ's presentation.

MOSES EGYPTIUS. See **MAIMONIDES.**

MOSHEIM (John Laurence), an illustrious German divine, born in 1695, of a noble family, which might have opened to his ambition a fair path to civil promotion; but his thirst after knowledge, and his taste for sacred literature, induced him to devote his talents to the church. The German universities loaded him with literary honors; the king of Denmark invited him to Copenhagen: the duke of Brunswick called him thence to Helmstadt, where he filled the academical chair of divinity, was made ecclesiastical counsellor to the court, and presided over the seminaries of learning in Wolfenbuttle and Blanckenburgh. To give a degree of lustre to the university of Gottingen, Dr. Mosheim was placed at the head of it, as chancellor; and he died there, universally lamented, in 1755. In judgment, taste, eloquence, erudition, and philosophy, he had certainly very few superiors. His principal work is his Ecclesiastical History, from the birth of Christ to the beginning of the eighteenth century, written in Latin. It was translated into English, and accompanied with notes and chronological tables, by Archibald Maclain, D. D., 1758, in 5 vols. 8vo.

MOSKVA, a river of Moscow, which gives name to the capital, and flows through it in a winding channel; but, excepting in spring, is only navigable for rafts. It receives the Yama in the Semlianogorod, and the Neglina at the western extremity of the Kremlin; the beds of both these last-mentioned rivulets are in summer little better than dry channels.

MOSQUE, *n. s.* Fr. *mosquée*; Ital. *moschia*; Arab. *musjid*. A Mahometan temple, or place of divine worship.

Accordingly, at the aforesaid times, of which public notice is given by the muedhekins, or criers, from the steeple of their *mosques* (for they use no bells) every conscientious moslem prepares himself for prayer, which he performs either in the *mosque* or any other place, provided it be clean, after a prescribed form.

Sale's Koran.

MOSQUES, are square buildings, generally constructed of stone. Before the chief gate there is a square court paved with white marble; and low galleries round it, whose roof is supported by marble pillars. In these galleries the Turks wash themselves before they go into the mosque. In each mosque there is a great number of lamps; and between these hang many crystal rings, ostrich's eggs, and other curiosities, which, when the lamps are lighted, make a fine show. As it is not lawful to enter the mosque with stockings or shoes on, the pavements are covered with pieces of stuff sewed together, each being wide enough to hold a row of men kneeling, sitting, or prostrate. The women are not allowed to enter the mosque, but stay in the porches without. About every mosque there are six high towers, called minarets, each of which has three little open galleries, one above another: these towers, as well as the mosques, are covered with lead, and adorned with gilding and other ornaments; and thence, instead of a bell, the people are called to prayers by certain

officers appointed for that purpose. Most of the mosques have a kind of hospital belonging to them, in which travellers of what religion soever are entertained three days. Each mosque has also a place called *tarbe*, which is the burying-place of its founders; within which is a tomb six or seven feet long, covered with green velvet or satten; at the ends of which are two tapers, and round it several seats for those who read the koran, and pray for the souls of the deceased. The mosque of St. Sophia, at Constantinople, is equally celebrated throughout Christendom and Islam for its beauty, magnitude, and splendor. If the Arab temples astonish by their huge extent and prodigious colonnades supporting their arches and vaults, those of the Turks possess another kind of claim to notice and admiration, in the grandeur and height of their various cupolas. Every province of Turkey has its own particular style and taste with regard to these religious structures; and as the Moresque architecture possesses no fixed rules, deeming lightness and elegance alone to be the fundamental laws of the art, the architect is allowed to follow the bent of his own fancy freely. The ornaments of the Turkish mosques, although perhaps redundant and superfluous, yet have a species of harmony among themselves, and, united, present a general effect which is in no slight degree pleasing and impressive. M. Denon bestows high commendations on many of these buildings and their constructors, who, he says, are able to achieve wonders, considering the still imperfect and inferior nature of their tools and materials.

MOSQUITOS, or the Mosquito Bank, is the name of a cluster of islands, near the coast of Honduras, which gives name to a tract of country on the continent, the Mosquito shore. See below. Long. 82° 10' W., lat. 14° 30' N.

MOSQUITO SHORE, a tract of country lying along part of the northern and eastern shore of Honduras, claimed by the British. We held this country for eighty years, and abandoned it in 1787 and 1788: the Spaniards, however, call it a part of Honduras, and claim it as such. It is an unhealthy, hot country, chiefly inhabited by Mosquito Indians, formerly a powerful and numerous race; but European diseases and rum have diminished their numbers. They inhabit, however, nearly the whole coast of Honduras, and have a large settlement near Cape Gracias a Dios. This has, however, been the subject of many enquiries and disputes, as these Indians differ in their persons from the other natives, and it is said by many authors that they are the descendants of the slaves of a Guinea ship, wrecked near this cape. They are called the Samboc Mosquitos.

MOSS, *n. s.* & *v. a.* } Sax. *meof*; French *mousse*; Ital. *moss*; Belg. *mossy*, *adj.* } *mosch*; Latin *muscus*.

A plant once considered an excrescence on trees: to cover with moss. Mossiness is the state of being covered or overgrown with this plant. Mossy, abundant in, or overgrown with moss.

An oak whose boughs were *mossed* with age, And high top bald with dry antiquity. *Shakspeare.*
Moss is a kind of mould of the earth and trees;

but it may be better sorted as a rudiment of germination.

Old trees are more mossy far than young; for that the sap is not so frank as to rise all to the boughs, but tireth by the way, and putteth out moss.

Id. Natural History.

The herbs withered at the top, showeth the earth to be very cold, and so doth the mossiness of trees.

Bacon.

Neither doth penitent Manasseh build God a new altar, but he repairs the old; which by long disuse lay waste, and was mossy and mouldered with age and neglect.

Bp. Hall.

About the mossy brooks and springs,
And all inferior beauteous things.

Cowley.

Houses then were caves, or homely sheds
With twining oziars fenced, and moss their beds.

Dryden.

Such mosses as grow upon walls, roofs of houses, and other high places, have seeds that, when shaken out of their vessels, appear like vapour or smoke.

Ray on the Creation.

The mossy fountains and the sylvan shades

Delight no more.

Pope's Messiah.

Though moss was formerly supposed to be only an excrescence produced from the earth and trees, yet it is no less a perfect plant than those of greater magnitude, having roots, flowers, and seeds, yet cannot be propagated from seeds by any art. The botanists distinguish it into many species; it chiefly flourishes in cold countries, and in the winter season, and is many times very injurious to fruit trees; the only remedy in such cases, is to cut down part of the trees, and plough up the ground between those left remaining; and in the spring, in moist weather, you should with an iron instrument scrape off the moss.

Miller.

Moss, or MOSSES, in botany. See MUSC.

Moss, on trees, in gardening. The growth of large quantities of moss on any kind of tree is a distemper very prejudicial to its increase, and greatly damages the fruit of the trees of many orchards. The usual remedy is the scraping it off from the body and large branches by a kind of wooden knife that will not hurt the bark, or with a piece of rough hair-cloth, which does very well after a soaking rain. But the most effectual cure is the taking away the cause, by draining off all the superfluous moisture from about the roots of the trees; and may be guarded against in the first planting, by not setting them too deep. If trees stand too thick in a cold ground, they will always be covered with moss. The best remedy is to thin them. When the young branches of trees are covered with a long and shaggy moss, it will utterly ruin them; and there is no way to prevent it but to cut off the branches near the trunk, and even to take off the head of the tree if necessary; for it will sprout again; and if the cause be in the mean time removed by thinning the plantation, or draining the land and stirring the ground well, the young shoots will continue clear after this. If the trees are covered with moss in consequence of the ground being too dry (as this will happen from either extreme in the soil), the proper remedy is laying mud from the bottom of a pond or river pretty thick about the root, opening the ground to some distance and depth to let it in. This will not only cool it, and prevent its giving growth to any great quantity of moss, but will also prevent any other mischief which fruit trees

are liable to in dry grounds, by the falling of the fruit too early. The mosses which cover the trunks of trees, as they always are most vigorously on the side which points to the north, if only produced on that side serve to preserve the trunk of the tree from the severity of the north winds, and direct the traveller in his way, by always plainly pointing out that part of the compass.

Moss is also a name given by some to the boggy ground in many parts of England, otherwise called a bog or fen. In many of these grounds, as well in Britain and Ireland as in other parts of the world, there are found vast numbers of trees standing with their stumps erect, and their roots piercing the ground in a natural posture as when growing. Many of these trees are broken or cut off near the roots, and lie along, usually in a north-east direction. To account for this many authors have resolved it into the effect of the deluge in the days of Noah; but this conjecture is proved false by many decisive arguments. The waters of this deluge might indeed have washed together a great number of trees, and buried them under loads of earth; but then they would have lain irregularly and at random; whereas they mostly lie lengthwise from south-west to north-east, and the roots all stand in their natural perpendicular posture, as close as the roots of trees in a forest. Besides, these trees are not all in their natural state, but many of them have evident marks of human workmanship upon them, some being cut down with an axe, some split, and the wedges still remaining in them; some burnt in different parts, and some bored through with holes. These things are also proved to be of a later date than the deluge, by other relics found among them, such as ancient utensils and coins of the Roman emperors. It appears from the whole, that all the trees, which we find in this fossile state, originally grew in the very places where we now find them, and have only been thrown down and buried there, not brought from other places. It may appear indeed an objection to this opinion, that most of these fossile trees are of the fir kind; and that Cæsar says expressly, that no firs grew in Britain in his time: but this is easily answered by observing, that these trees, though of the fir kind, yet are not the species usually called the fir, but pitch tree; and Cæsar has no where said that pitch trees did not grow in England. In Hatfield Marsh, where such vast numbers of the fossile trees are now found, there has evidently once been a whole forest of them growing. The last of these was found alive, and growing in that place within these last eighty years, and cut down for some common use. It is also objected by some, to the system of the firs growing where they are found fossile, that these countries are all bogs and moors, whereas these trees grow only in mountainous places. But this is a mistake; for though in Norway, in Sweden, and some other cold countries, the fir kinds all grow upon barren and dry rocky mountains, yet in warmer places they are found to thrive as well on wet plains. Such are found plentifully in Pomerania, Livonia, and Courland, &c.; and in the west parts of New England

there are vast numbers of fine stately trees of them in low grounds. The truth seems to be, that these trees love a sandy soil; and such is found at the bottoms of all the mosses where these trees are found fossile. The roots of the fir kind are always found fixed in these; and those of oaks, where they are found fossile in this manner, are usually found fixed in clay: so that each kind of tree is always found rooted in the places where they stand in their proper soil; and there is no doubt but that they originally grew there. When we have thus found that all fossile trees we meet with once grew in the places where they are now buried, it is plain that in these places there were once noble forests, which have been destroyed at some time; and the question only remains how and by whom they were destroyed. This, we have reason to believe, from the Roman coins found among them, was done by the people of that empire, when they were established in Britain. Cæsar tells us that, when their armies pursued the wild Britons, these people always sheltered themselves in the miry woods and low watery forests; and Cassibelan and his Britons, after their defeat, passed the Thames, and fled into such low morasses and woods, that there was no pursuing them. We find that the Silures secured themselves in the same manner when attacked by Ostorius and Agricola. The same thing is recorded of Venutius, king of the Brigantes, who fled, to secure himself, into the boggy forests in the midland part of this kingdom: and Herodian expressly says, that, while the Romans were pushing their conquests in these islands, it was the custom of the Britons to secure themselves in the thick forests which grew in their boggy and wet places; and, when opportunity offered, to issue out thence and fall upon the Romans. The consequence of all this was the destroying of those forests; the Romans, finding themselves so harassed by parties of the natives issuing out upon them at times from these forests, gave orders for the cutting down and destroying all the forests in Britain which grew on boggy and wet grounds. These orders were punctually executed; and to this it is owing, that we can now hardly believe that such forests ever grew in Britain as are now found buried in mosses. The Roman historians all agree, that, when Suetonius Paulinus conquered Anglesea, he ordered all the woods to be cut down there, after the manner of the Roman generals in England: and Galen tells us, that the Romans, after their conquest in Britain, kept their soldiers constantly employed in cutting down forests, draining marshes, and paving bogs. Not only the Roman soldiers were employed in this manner, but all the native Britons made captives in the wars were obliged to assist in it: and Dion Cassius says, that the emperor Severus lost no fewer than 50,000 men, in a few years, in cutting down the woods and draining the bogs of this island. It is not then to be wondered at, that such numbers executed the immense destruction which we find in these buried forests. One of the greatest subterranean treasures of wood is that near Hatfield; and it is easy to prove that these people, to whom this havoc is thus attributed, were

upon the spot where these trees now lie buried. The common road of the Romans, out of the south into the north, was formerly from Lindum (now Lincoln) to Segelochum (Little Burrow upon Trent), and thence to Danum (now Doncaster), where they kept a standing garrison of Crispinian horse. A little off on the east and north-east of this road, between the two last named towns, lay the borders of the greatest forest, which swarmed with wild Britons, who were continually making their sallies out, and their retreats into it again, intercepting their provisions, taking and destroying their carriages, killing their allies and passengers, and disturbing their garrisons. This at length so exasperated the Romans that they were determined to destroy it; and, to do this safely and effectually, they marched against it with a great army, and encamped on a great moor near Finnerly, where the fortifications yet remain. There is a small town in the neighbourhood called Osterfield; and as the termination field seems to have been given chiefly in remembrance of battles fought near the towns, whose names end with it, it is probable that a battle was fought here between the Britons who inhabited this forest and the Roman troops under Ostorius. The Romans slew many of the Britons, and drove the rest back into this forest, which at that time overspread all this low country. On this the conquerors, taking advantage of a strong south-west wind, set fire to the pitch trees, of which this forest was principally composed; and, when the greater part of the trees were thus destroyed, the Roman soldiers and captive Britons cut down the remainder, except a few large ones, which they left standing as memorials of the destruction of the rest. These single trees, however, could not stand long against the winds; and these, falling into the rivers which ran through the country, interrupted their currents; and the water, then overspreading the level country made one great lake, and gave origin to the mosses or moory bogs which were afterwards formed there, by the workings of the waters, the precipitation of earthy matter from them, and the putrefaction of rotten boughs and branches of trees, and the vast increase of water-moss, and other such plants which grow in prodigious abundance in all these places. Thus were these burnt and felled trees buried under a new-formed spongy and watery earth, and afterwards found on the draining and digging through this earth again. Hence Roman weapons and Roman coins are found among these buried trees; and hence among the buried trees some are found burnt, some chopped and hewn; and hence it is that the bodies of the trees all lie by their proper roots, and with their tops lying north-east, that is, in that direction in which a south-west wind would blow them down: hence, also, it is, that some of the trees are found with their roots lying flat, these being not cut or burnt down, but blown up by the roots afterwards when left single; and it is not wonderful that such trees as these should have continued to grow even after their fall, and shoot up branches from their sides, which might easily grow into high trees. Upon this hypothesis it is also easily explained,

why the moor-soil in the country is in some places two or three yards thicker than in others, or higher than it was formerly, since the growing up of peat, earth, or bog-ground, is well known, and the soil added by overflowing of waters is not a little. As the Romans were the destroyers of this great and noble forest, so they were probably also of the several other ancient forests; the ruins of which furnish us with the bog-wood of Staffordshire, Lancashire, Yorkshire, and other countries. But as the Romans were not much in Wales, in the Isle of Man, or in Ireland, it is not to be supposed that forests cut down by these people gave origin to the fossile wood found there; but though they did not cut down these forests, others did; and the origin of the bog-wood is the same with them and with us. Holingshed informs us, that Edward I. being not able to get at the Welsh, because of their hiding themselves in boggy woods, gave orders at length that they should all be destroyed by fire, and by the axe; and doubtless the roots and bodies of trees found in Pembrokehire under ground are the remains of the execution of this order. The fossile wood in the bogs of the Isle of Man is doubtless of the same origin, though we have not any accounts extant of the time or occasion of the forests there being destroyed; but, as to the fossile trees of the bogs of Ireland, we are expressly told, that, when Henry II. conquered that country, he ordered all the woods to be cut down that grew in the low parts of it, to secure his conquests, by destroying the places of resort of the rebels.

In the Philosophical Transactions we have an account of a moving moss near Churchtown in Lancashire, which greatly alarmed the neighbourhood as miraculous. The moss was observed to rise to a surprising height, and soon after sunk as much below the level, and moved slowly towards the south. A very surprising instance of a moving moss is that of Solway in Scotland, which happened in 1771, after severe rains, which had produced terrible inundations of the rivers in many places. About 800 acres of arable ground were overflowed by moss, and the habitations of twenty-seven families destroyed. Tradition has preserved the memory of a similar inundation in Monteith in Scotland. A moss there altered its course in one night, and covered a great extent of ground.

Moss, a town of the south of Norway, in the bishopric of Christiania, on a large bay which allows slips of considerable size to come close to the town. It has 3000 inhabitants, and a brisk export trade in deal. There are about thirty saw-mills at the mouth of an adjacent stream: also a large iron work and cannon foundry. Thirty-eight miles south of Christiania, and seventeen north of Frederickstadt.

Moss (Dr. Robert), dean of Ely, was born at Gillingham in Norfolk in 1666. He was bred at Bennet College, Cambridge, where he early acquired great reputation. He became preacher to the society of Gray's Inn, London, in 1698; and assistant to Dr. Wake at St. James's in 1699. He was chaplain to king William III., queen Anne, and king George I.; and when queen Anne visited the university of Cambridge, April

5th, 1705, he was created D. D. In 1709 he was chosen lecturer by the parishioners of St. Lawrence Jewry, which he held till 1727. In 1712 he was nominated by the queen dean of Ely; and in 1714 he was collated rector of Glaston by bishop Robinson. The gout deprived him of the use of his limbs for some of the last years of his life. He died in 1729, in his sixty-third year, and was buried in his own cathedral. Eight volumes of his sermons were published by Dr. Snape, and he is also said to have been the author of a pamphlet printed in 1717, entitled *The Report Vindicated from Misreports*; being a defence of the bishops and clergy of the lower house of convocation, concerning their consultations about the bishop of Bangor's writings. He wrote also some Latin and English poems.

MOSS-TROOPERS, a rebellious sort of people in the north borders of England, who lived by robbery and rapine, not unlike the tories in Ireland, the buccaniers in Jamaica, or banditti of Italy. The counties of Northumberland and Cumberland were charged with a yearly sum, and a command of men, to be appointed by justices of the peace, to apprehend them.

Mossop, Henry; an eminent tragic actor, born in Ireland, 1729. He was the son of a clergyman who held a rectory in the province of Connaught, and was educated at Trinity college, Dublin, where he took a degree. He made his first appearance on the stage at Dublin. He afterwards removed to London, where, next to Garrick and Barry, he was esteemed the principal tragedian of his time. In 1761, he became manager of one of the Dublin theatres, in opposition to Barry and Woodward; and the rivalry proved ruinous to all parties, and especially so to Mossop, whose vanity and intemperate conduct having at length excluded him from the exertion of his professional abilities on the metropolitan stage, he was reduced to great distress, and died in absolute penury, at Chelsea, in November, 1773.

MOST, *adj., adv., & n. s.* } Sax. mætt; Swed. Most'ly, *adv.* } mest; Goth. mest,

Most'WHAT, *adv.* } moust; Belg. meest;

Teut. meist or merest. Superlative of some, great, and much. See MORE. Greatest in quantity, size, or number; as an adverb, in the greatest degree; a particle denoting superlativeness: as a substantive, the greatest number; value; degree of any kind; the utmost. Mostly is for the greatest part. Mostwhat, an obsolete word for the most part.

A Spaniard will live in Irish ground a quarter of a year, or some months at the most. Bacon.

God's promises being the ground of hope, and those promises being but seldom absolute, *mostwhat* conditionate, the Christian grace of hope must be proportioned and attemperate to the promise; if it exceed that temper and proportion, it becomes a tympany of hope. Hammond.

It (an oath) is an invocation of God, as a most faithful witness concerning the truth of our words, or the sincerity of our meaning. Barrow.

He for whose only sake,
Or most for his, such toils I undertake.

Dryden.

A covetous man makes the *most* of what he has, and can get, without regard to Providence or Nature.

L'Estrange.

Whilst comprehended under that consciousness, the little finger is as much a part of itself as what is *most* so.

Locke.

That which will *most* influence their carriage will be the company they converse with, and the fashion of those about them.

Id.

Many of the apostles' immediate disciples sent or carried the books of the four evangelists to *most* of the churches they had planted.

Addison.

Garden fruits which have any acrimony in them, and *most* sorts of berries, will produce diarrhoeas.

Arbuthnot.

Gravitation, not being essential to matter, ought not to be reckoned among those laws which arise from the disposition of bodies, such as *most* of the laws of motion are.

Cheyne.

The faculties of the supreme spirit *most* certainly may be enlarged without bounds.

Id.

He thinks *most* sorts of learning flourished among them, and I, that only some sort of learning was kept alive by them.

Pope.

The spring time of our years

Is soon dishonoured and defiled in *most*

By budding ills, that ask a prudent hand

To check them.

Cowper.

MOSTAR, an inland town of Bosnia, in the north-west of European Turkey, and the chief place of the district or rather province of Herzegovina. It has a remarkable old Roman bridge over the Narenta, and contains 9000 inhabitants, and a fine manufacture of arms.

MOSUL, a large town of the pachalic of Bagdad, Asiatic Turkey. It stands on the west bank of the Tigris, and the river, which is 300 feet wide, sometimes flows with great rapidity to the level of the houses. Its ornaments are a college, the tomb of sheik Abdul Kassin, and the remains of a beautiful mosque built by sultan Nouredin of Damascus. The coffee-houses, baths, khans, and bazaars, are handsome: but the Kara Serai, or black palace, being in ruins, the pacha resides in a cluster of small buildings. The castle, occupying an artificial island in the Tigris, is now very much decayed; but the city has still a stone wall and seven gates. The houses are built partly of brick and partly of stone; and, as timber is scarce and dear, the ceilings of the apartments are all vaulted. The inhabitants are a mixture of Turks, Curds, Jews, Nestorians, Armenians, and Arabs. The place forms an independent government, under the command of a pacha of two tails. Population 35,000. To the north, on the opposite side of the river, is Nunia, supposed to occupy the site of the ancient Nineveh. Lat. 36° 21' N.

MOTACILLA, in ornithology, the wagtail and warbler, a genus of birds of the order of passeress; distinguished by a straight weak bill of a subulated figure, a tongue lacerated at the end, and very slender legs. There are about 200 species, besides varieties. The most remarkable are these:—

1. *M. alba*, the white wagtail, frequents the sides of ponds and small streams, and feeds on insects and worms. The head, back, and upper and lower side of the neck, as far as the breast, are black; in some the chin is white, and the throat marked with a black crescent; the breast

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and belly are white; the quill-feathers are dusky; the coverts black, tipped and edged with white. The tail is very long, and always in motion. Mr. Willoughby observes that this species shifts its quarters in the winter, moving from the north to the south of England. In spring and autumn, it is a constant attendant on the plough, for the sake of the worms thrown up by that instrument. These birds make their nest on the ground, composed of dry grass, fine fibres of roots, and moss, lined within with hair or feathers. The eggs are five in number, white, spotted with brown; and for the most part there is only one brood in a year.

2. *M. atricapilla*, the black-cap, is smaller than the linnets, or even the pettychaps. The bill is brown; the top of the head is black; and the upper parts of the body are of a greenish-ash-color; the sides of the head and under parts are gray, changing to very light gray, or almost white, towards the vent; the quills and tail are cinereous brown, margined with the same color as the upper parts; the legs are lead-colored, and the claws black. This species is pretty common in England, and elsewhere in Europe, as far as Italy; in all which places it breeds, coming in spring and retiring in September. In Italy it builds twice in the year; with us only once. The nest, which is generally placed in some low bush near the ground, is composed of dried stalks, mixed with a little wool and green moss round the verge; the inside lined with the fibres of roots, thinly covered with black horse-hair. The eggs are five in number; of a pale reddish brown, mottled with a deeper color, and sprinkled with a few dark spots. The male and the female sit by turns during incubation; and the young very early leap out of the nest, especially if any one approaches it, and forsake it for ever. The food is chiefly insects; but in defect of these they eat the fruit of spurge laurel, service, and ivy; and seem to be even fond of the last, as they much frequent trees overgrown with it. The song is much esteemed, in many things almost equalling the nightingale itself; scarcely deficient, except in the delightful variety of note. Hence it has been named the mock nightingale.

3. *M. cyanea*, the superb warbler, a most beautiful species, is five inches and a half long. The bill is black; the feathers of the head are long, and stand erect like a full crest; from the forehead to the crown they are of a bright blue; thence to the nape black like velvet; through the eyes from the bill there runs a line of black; and beneath the eye springs a tuft of the same blue feathers; beneath which, and on the chin, it is of a deep blue, almost black, and feeling like velvet: on the ears is another patch of blue, and across the back part of the head a band of the same; the whole giving the head a greater appearance of bulk than is natural: the hind part of the neck, and upper parts of the body and tail, are of a deep blue black; the under parts pure white; the wings are dusky, the shafts of the quills chestnut; the legs dusky brown; the claws black. This species inhabits Van Diemen's Land. The female is entirely destitute of all the fine blue colours, both pale and dark, by

N

which the male is adorned, except that there is a very narrow circle of azure round each eye, apparently on the skin only; all the upper feathers consist of shades of brown, and the whole throat and belly is pure white. Except from the shape and size, the female would not be suspected to belong to the same species as the male: the epithet of superb therefore applies very ill to her.

4. *M. ficedula*, the epicurean warbler, is in length five inches: the upper parts are gray brown; the under parts grayish-white, with a tinge of brown on the breast; and the legs are blackish. This species is much esteemed on the continent for the delicate flavor of its flesh. Their chief food is insects; except in autumn, when they make great havock among the figs and grapes; whence, it is supposed, their great delicacy arises. It is not found in England, but in most of the intermediate parts between Sweden and Greece; where, however, it is only a summer inhabitant, retiring still farther south at the approach of winter. In the isles of Cyprus and Candy they abound greatly, insomuch as to be an article of commerce. They transport them in vessels filled with vinegar and sweet herbs: the Isle of Cyprus alone collects 1000 or 1200 of these pots every year.

5. *M. flava*, the yellow wagtail, migrates in the north of England, but in Hampshire continues the whole year. The male is a bird of great beauty: the breast, belly, thighs, and vent feathers, being of a most vivid and lovely yellow: the throat is marked with some large black spots; above the eye is a bright yellow line: beneath that, from the bill cross the eye, is another of a dusky hue; and beneath the eye is a third of the same color: the head and upper part of the body are of an olive green, which brightens in the coverts of the tail; the quill-feathers are dusky; the coverts of the wings olive colored; but the lower rows dusky, tipped with yellowish-white; the two outmost feathers of the tail half white; the others black. The colors of the female are far more obscure than those of the male: it wants also those black spots on the throat. It makes its nest on the ground, in corn fields: the outside is composed of decayed stems of plants and small fibrous roots; the inside is lined with hair: it lays five eggs.

6. *M. hippolais*, the pettychaps, is somewhat less than a linnet. The bill is short; the upper mandible black, the under bluish; above and below the eye there is a yellowish line; the head, neck, and upper parts, are of a greenish ash-color; the quills and tail are of a mouse color, with greenish edges and black shafts; and the under wing-coverts are yellow; the belly is of a silvery white; the breast darker and tinged with yellow; the legs are bluish, or lead-colored. This species is frequent in several parts of England, and makes a nest of an arched form, composed of dry twigs, with a little moss, and thickly lined with feathers: it is placed on the ground, under a tuft of grass or at the bottom of a bush. The eggs are five in number, white, sprinkled all over with small red spots, most so at the largest end. In Dorsetshire it is known by the name of hay-bird. In Yorkshire it is

called the beam-bird, from its nestling under beams in out-buildings.

7. *M. lucinia*, the nightingale, exceeds in size the hedge sparrow. The bill is brown: the irides are hazel; the head and back pale tawny, dashed with olive; the tail of a deep tawney red; the under parts are pale ash-color, growing white towards the vent; the quills cinereous brown, with the outer margins reddish-brown; the legs cinereous brown. The male and female are very similar. This bird, the most famed of the feathered tribe for the variety, length, and sweetness of its notes, is migratory, and supposed to be an inhabitant of the Asiatic regions during such times as it is not to be found in Europe. It is met with in Siberia, Sweden, Germany, France, Italy, and Greece; but in all those places it is migratory, as in England. Hasselquist speaks of it as being in Palestine; and Fryer ascertains its being found about Culminor in Persia; it is also spoken of as a bird of China, Kamtschatka, and Japan; at which last place they are much esteemed, and sell dear; as they are also at Aleppo, where they are 'in great abundance kept tame in houses, and let out at a small rate to such as choose it in the city, so that no entertainment is made in the spring without a concert of these birds.' They are not found in America, though several of their birds improperly bear that name; and it is uncertain whether they are found in Africa. These birds visit Britain in the beginning of April, and migrate in August; and during their continuance their range is confined to but a part of the island: they are not found in Scotland, Ireland, or North Wales, nor in any of the northern counties except Yorkshire; and do not migrate so far to the west as Devonshire and Cornwall. They are solitary birds never uniting even into small flocks: and, in respect to the nests, it is very seldom that two are found near each other. The female builds in some low bush or quickett hedge well covered with foliage, for such only this bird frequents; and lays four or five eggs, of a greenish-brown. The nest is composed of dry leaves on the outside, mixed with grass and fibres, lined with hair or down within, though not always alike. The female alone sits on and hatches the eggs, while the male not far off regales her with his delightful song; but, as soon as the young are hatched, he commonly leaves off singing, and joins with the female in the task of providing for and feeding them. After the young can provide for themselves the old female provides for a second brood, and the song of the male recommences. They have been known to have three broods in a year, and in the hot countries even four. These birds are often brought up from the nest for the sake of their song. They are likewise caught at their first coming over; and, though old birds, yet by management can be made to bear confinement, and to sing equally with those brought up from the nest. 'None but the vilest epicure,' Mr. Latham remarks, 'would think of eating these charming songsters; yet we are told that their flesh is equal to that of the ortolan, and they are fattened in Gascony for the table.' Every schoolboy must have read of Heliogabalus's eating nightingales' tongues; and that famed dish

of the Roman tragedian *Æsop*, which was composed of those of every singing or talking bird, and is said to have cost about £6843 of our money.

8. *M. modularis*, the hedge sparrow, a well known bird, has the back and wing-coverts of a dusky hue, edged with reddish-brown; rump of greenish-brown; throat and breast of a dull ash-color; the belly a dirty white; and the legs of a dull flesh-color. This bird frequents hedges in England; where it makes its nest of moss and wool, lining it with hair, and lays four or five eggs of a fine pale blue. With us and the more northern regions it is seen at all seasons; but in France it is migratory, coming in October, and departing northward in spring. The note of this bird would be thought pleasant, did it not remind us of the approach of winter; beginning with the first frosts, and continuing till a little time in spring. Its often repeating the words tit, tit, tit, has occasioned its being called tittling; a name it is known by in many places.

9. *M. oenanthe*, the wheat-ear, is in length five inches and a half. The top of the head, hind part of the neck, and back, are of a bluish-gray; and over the eye a streak of white; the under parts of the body yellowish-white, changing to pure white at the vent; the breast is tinged with red; and the legs are black. This species is met with in most parts of Europe, even as far as Greenland; and specimens have also been received from the East Indies. It visits England annually in the middle of March, and leaves us in September. It chiefly frequents heaths. The nest is usually placed under the shelter of some turf, clod, stone, or the like, always on the ground, and often in some deserted rabbit-burrow. It is composed of dry grass or moss, mixed with wool, rabbit's fur, &c., or lined with hair and feathers. The eggs are from five to eight in number, of a light blue, with a deeper blue circle at the large end. The young are hatched the middle of May. In some parts of England these birds are in vast plenty. In Sussex they are taken in snares made of horsehair, placed beneath a long turf: being very timid, the motion of a cloud, or the appearance of a hawk, will drive them for shelter into these traps. The numbers annually ensnared in that district alone amount to about 1840 dozen, which usually sell at 6d. per dozen. Quantities of these are eaten on the spot by the inhabitants; others are sent up to the London poulterers; and many are potted, being almost as much esteemed in England as the ortolan on the continent. They feed on insects only.

10. *M. phoenicurus*, the redstart, is somewhat less than the redbreast: the forehead is white; the crown of the head, hind part of the neck, and back, are deep blue gray; the cheeks and throat black; the breast, rump, and sides red, and the belly white; the two middle tail-feathers are brown; the rest red; and the legs black. The female has the top of the head and back cinereous gray; chin white. The same parts are red in this sex as in the male, but not so bright. The wings are brown in both sexes. This bird is migratory; coming hither in spring, and departing about October. It is not so shy

as many birds in respect to itself; for it approaches habitations, and often makes its nest in some hole of a wall where numbers of people pass by frequently, if no one meddles with the nest; but the least derangement of the eggs, or even looking at them, especially if the female is disturbed, causes her to forsake the nest altogether. It frequently builds also in some hole of a tree. The nest is composed chiefly of moss, lined with hair and feathers. The eggs are bluish, and four or five in number. This bird frequently wags its tail; but does it sideways, like a dog when he is pleased, and not up and down like the wagtail. It is with difficulty that these birds are kept in a cage; nor will they submit to it by any means if caught old. Their song has no great strength; yet it is agreeable; and they will, if taught young, imitate the note of other birds, and sing by night frequently as well as in the day-time.

11. *M. regulus*, the gold-crested wren, is a native of Europe, and of the correspondent latitudes of Asia and America. It is the least of all the European birds, weighing only a single drachm. Its length is about four inches and a half; and the wings, when spread out, measure little more than six. On the top of its head is a beautiful orange-colored spot, called its crest; the margins of the crest are yellow, and it ends in a pretty broad black line; the sides of the neck are of a beautiful yellowish-green; the eyes surrounded with a white circle; the neck and back of a dark green, mixed with yellow; the breast of a dirty white; the tail composed of twelve feathers of a brown color, an inch and a half long, but not forked. In America it associates with the tit-mice, running up and down the bark of lofty oaks with them, and collecting its food in their company, as if they were all of one brood. It feeds on insects lodged in their winter dormitories in a torpid state. It sings very melodiously.

12. *M. rubecula*, the red-breast, is universally known: the upper parts are of a green ash-color; the forehead, throat, neck, and breast, a rufous orange; the belly and vent whitish; the bill, legs, and sides of the body dusky. It is a constant inhabitant of these kingdoms, as well as the whole European continent, from Sweden to Italy. It abounds in Burgundy and Lorraine, where numbers are taken for the table and esteemed excellent food. It builds near the ground, if in a bush; though sometimes it fixes on an out-house, or retired part of some old building. The nest is composed of dried leaves, mixed with hair and moss, and lined with feathers. The eggs are of a dusky white, marked with irregular reddish spots, and from five to seven in number. The young, when full feathered, may be taken for a different bird, being spotted all over. The first rudiments of the red break forth on the breast about the end of August; but it is the end of September before they come to the full color. Insects are their general food; but in defect of these they will eat many other things. No bird is so tame and familiar as this; closely attending the heels of the gardener when he is using his spade, for the sake of worms; and frequently in winter enter-

ing houses where windows are open, when they will pick up the crumbs from the table while the family is at dinner. The people about Bornholm call it *tommiliden*; in Norway *peter ronsmad*; the Germans, *thomas gierdet*; and we, robin red-breast.

13. *M. rubetra*, the whin-chat, is somewhat bigger than the stone-chatter. The upper parts are blackish, edged with rufous; from the bill arises a streak of white, which passes over the eye on each side, almost to the hind head; beneath this the cheeks are blackish; the chin is white; the rest of the under parts rufous white; on the wing, near the shoulder, is a transverse white mark, and another smaller near the bastard wing, on the outer edge; the legs are black. The female is much paler, and the spots on the wings, and the white trace over the eye, are far less conspicuous. This is not uncommon in Britain, and is seen in summer along with the stone-chatter on the heaths, where it breeds, making the nest much after the manner of that bird. It lays five dirty white eggs, dotted with black. This species is common also in France, Italy, Germany, and the temperate parts of Russia; but it is less common than the stone-chatter there, as well as in England. Its food is chiefly insects.

14. *M. rubicola*, the stone-chatter, is about four inches and three quarters. The male has the upper parts of the body mixed blackish and pale rufous; on each side the neck there is a transverse streak of white; the breast is of a reddish yellow; the belly paler; and the legs are black. In the female the colors are much less vivid. This species inhabits dry places, as heaths and commons; living on insects of all kinds. It makes its nest early, at the foot of some low bush or under a stone; and has five or six eggs of a bluish green, sparingly marked with faint rufous spots. It is so very crafty as not to betray the place of the nest, never alighting but at some distance, and creeping on the ground to it by the greatest stealth. It is a restless bird, incessantly flying from bush to bush; and seems to have received its English name from its note, resembling the clicking of two stones together.

15. *M. salicaria*, the sedge bird, is about the size of the black-cap, but more slender. The head is brown, marked with dusky streaks; the cheeks are brown, with a white line over each eye, and a black one above it; the upper parts of the neck and back are of a reddish brown, and the wing-coverts and quills dusky; the under parts are white; but the breast and belly have a yellow tinge; the tail is brown and much rounded; and the legs are dusky. This species is common in England, and frequents places where reeds and sedges grow, among which it is said to make its nest, though it sometimes forms it on the lowest branches of trees. The nest is composed of straw and dried fibres of plants, lined with hair; and the eggs, five in number, of a dirty white, marbled with brown. It imitates the notes of the swallow, sky-lark, house-sparrow, and other birds, in a pleasing but hurrying manner, and sings all night.

16. *M. sialis*, the blue bird, is a native of

most parts of North America, and is about the bigness of a sparrow. The eyes are large, the head and upper part of the body, tail, and wings, are of a bright blue, excepting that the ends of the feathers are brown. The throat and breast are of a dirty red. The belly is white. It flies swiftly, having very long wings; so that the hawk generally pursues it in vain. It makes its nest in holes of trees; resembles our robin red-breast in its disposition, and feeds only on insects.

17. *M. sutoria*, the tailor-bird, is a native of the East Indies. It is remarkable for the art with which it makes its nest, to secure itself and its young in the most perfect manner possible against all danger from voracious animals. It picks up a dead leaf, and sews it to the side of a living one; its slender bill is the needle, and its thread is formed of some fine fibres; the lining is composed of feathers, gossamer, and down. The color of the bird is light yellow; its length three inches; and its weight only three-sixteenths of an ounce; so that the materials of the nest, and its own size, are not likely to draw down a habitation depending on so slight a tenure.

18. *M. troglodytes*, the wren, is a very small species, in length only three inches and three quarters, though some have measured four inches. The bill is very slender and of a dusky brown color; the head, neck, and back, are of a reddish-brown; and over each eye a pale reddish-white streak; the under parts, as far as the breast, are of this last color; the rest more inclined to brown, crossed with brown lines; the legs are pale brown. It generally carries the tail erect. The nest is almost oval, and has only one small entrance; it is chiefly composed of moss, well lined with feathers. In this the female lays from ten to sixteen or eighteen eggs, which are almost white, with reddish markings at the large end. She builds twice a-year, in April and June. The nest is often found in some corner of an out-house, stack of wood, hole in a wall, or such like, if near habitations; but in the woods, often in a bush on or near the ground, or in a stump of a tree. This minute bird is found throughout Europe; and in England it defies the severest winters. Its song is much esteemed, being, though short, a pleasing warble, and much louder than could be expected from its size; it continues throughout the year.

MOTAPA, or ΜΟΝΟΤΑΡΑ (though *Mono* is here only a general name for kingdom), a country of Eastern Africa, called also *Benomotapa* and *Mocaranga*. Its limits nominally include all the country in the interior from Mosambique southward nearly to the Cape of Good Hope. This territory, however, is divided into a great number of independent states. In the interior it has *Chicova*, *Manica*, and *Chicanga*; but is altogether but little known. The capital is *Zimboa*, near the head of the river of *Sofala*. The Portuguese have made repeated attempts to penetrate this country, to possess themselves of the gold mines which lie in the interior. In the sixteenth century *Nunez Bareto* undertook a grand expedition, when the native *Quiteve*, abandoning his capital, merely carried on a harassing warfare;

and Barreto penetrated to the gold mines, but was unable to form any establishment there. A treaty was at last concluded, and the Quiteve agreed, in consideration of a tribute of 200 pieces of cloth, to allow the Portuguese free passage through his dominions. They have been obliged, however, to content themselves with a single chain of posts to the mines on the Zambaza.

MOTE, *n. s.* Sax. *moet*; Swed. *mot*; Italian *miot*. A small particle of any kind; any thing proverbially little.

But what seest thou a little *note* in the yge of thi brother, and seest not a beam in thin owne yge.

Wiclif. Mat. 7.

For now the grete charitee and prayers
Of limitours and other holy freres,
That serchen every land and every streme,
As thikke as *notes* in the sonne beme,
This makith that ther ben no Faeries.

Chaucer. Cant. Tales.

You found his *note*, the king your *note* did see;
But I a beam do find in each of three. *Shakspeare.*
The little *notes* in the sun do ever stir, though there
be no wind. *Bacon's Natural History.*

MOTE for might, or must. Sax. *moet*; Belgic *moet*. Obsolete.

Most ugly shapes,
Such as dame Nature self *note* fear to see,
Or shame, that ever should so foul defects
From her most cunning hand escaped be.

Faerie Queene.

MOTH, *n. s.* } Sax. *moð*: Teut. *motte*;
MOTHY, *adj.* } Swed. *mett*, A small winged
insect: full of moths.

He as a rotten thing consumeth as a garment that
is *moth* eaten. *Job xiii. 28.*

These wormes, ne these *mothes*, ne these mites,
Upon my pareille frett him moer a del;
And wost thy why? for they were used wel.

Chaucer. Cant. Tales.

All the yarn Penelope spun in Ulysses's absence,
did but fill Ithaca full of *moths*. *Shakspeare.*

Every soldier in the wars should do as every sick
man in his bed, wash every *moth* out of his con-
science. *Shakspeare.*

His horse hipped with an old *mothy* saddle, the
stirrups of no kindred. *Id.*

Let *moths* through pages eat their way,
Your wars, your loves, your praises be forgot,
And make of all an universal blot.

Dryden's Juvenal.

So man, the *moth*, is not afraid, it seems,
To span Omnipotence, and measure might,
That knows no measure. *Cowper.*

MOTH, in zoology. See PHALÆNA.

MOTHE GUYON (Joanna Mary Bouriers de la), a French lady, memorable for her writings and sufferings in the cause of Quietism. She was descended from a noble family, and born at Montargis in 1648. She tried to take the veil before she was of age; but her parents obliged her to marry a gentleman to whom they had promised her. She was a widow at twenty-eight; when, distinguishing herself as a Quietist, she was confined for eight months. She was discharged; but in 1695 was involved in the persecution of the archbishop of Cambray, and thrown into the bastille; but, nothing being made out against her, she once more obtained her liberty in 1700; when she retired to Blois, and lived in a manner which showed her persecutions were unmerited. She wrote 1. Can-

tiques Spirituels, ou Emblemes sur l'Amour divin; 5 vols. 2. Reflexions sur la Vie Interieure. 3. Discourses Chretiennes; 2 vols. 4. Her own Life; 3 vols. 5. Opuscles. 6. Letters, &c. She died June 9th, 1717.

MOTHE LE VAYER (Francis de la), counsellor of state, was born at Paris in 1588. He became so distinguished by his writings that he was considered as one of the first members of the French Academy, into which he was admitted in 1639. He was esteemed by cardinals Richelieu and Mazarine, who bestowed splendid titles and honorable posts upon him. He was appointed preceptor to the duke of Anjou. He was extremely afflicted at the loss of his only son, who died when about thirty-five years of age. He married again, although then above seventy-five years old, and died in 1672, aged eighty-four. His works, collected by his son, were dedicated to cardinal Mazarine in 1653; but the best edition of them was that of Paris, 1669, dedicated to Louis XIV., and consisting of 15 vols. in 12mo. His treatises concerning the education of the dauphin, and of pagan philosophy, are most esteemed.

MOTHER, *n. s., adj., & v. n.* } Sax. *moðer*;
MOTHERHOOD, } Goth., Danish,
MOTHERLESS, *adj.* } and Swed. *mo-*
MOTHERLY, *adj. & adv.* } *der*; Belgic,
moeder; Teut. *mutter*; Ital. and Span. *madre*;

Fr. *mere*; Lat. *mater*; Gr. *μητηρ*. We add, to show the great similarity of this word in all the considerable languages of the earth, Pers. *madur*; Sans. *mata*, *matri*; Hind. *mattara*. A woman who has borne a child: hence that which has produced or preceded any thing; a familiar term of address to a woman; a religious term of address; also hysterical passion, as supposed to be peculiar to women: as an adjective, it signifies native; had at the birth. Motherhood is the office or character of a mother. Motherless, destitute of a mother. Motherly, maternal; belonging to, or becoming a mother; matronly; in the manner of a mother.

Therefore whanne Jhesus hadde seien his *moder* and the disciple stondyng whom he louyde, he seith to his *modir*, woman lo thi sonne, afterward he seith to the disciple, lo thi *modir*, and fro that our the disciple took hir into his *modir*.

Wiclif. Jon 19.

I am come to set at variance the daughter-in-law
against the *mother-in-law*. *Matt. x. 35.*

His mortal blade

In ivory sheath, year'd with curious slights,
Whose hilt was burnished gold, and handle strong
Of *mother-pearl*. *Faerie Queene.*

They can owe no less than child-like obedience to
her that hath more than *motherly* power. *Hooker.*

For whatsoever *mother* wit or art
Could work, he put in proof.

Hubbard's Tale.

Let thy *mother* rather feel thy pride, than fear
Thy dangerous stoutness. *Shakspeare. Coriolanus.*

I had not so much of man in me
But all my *mother* came into mine eyes,
And gave me up to tears.

Shakspeare. Henry V.

Alas, poor country! It cannot
Be called our *mother*, but our grave.

Shakspeare.

Where did you study all this goodly speech?
It is extempore, from my *mother* wit. *Id.*

A sling for a *mother*, a bow for a boy,

A whip for a carter. *Tusser's Husbandry.*

They termed her the great *mother*, for her *motherly* care in cherishing her brethren whilst young.

Raleigh.

Thou shalt see the blessed *mother*-maid

Exalted more for being good,

Than for her interest of *motherhood*. *Donne.*

The air doth not *motherly* sit on the earth,

To hatch her seasons, and give all things birth.

Id.

They were of onyx, sometimes of *mother* of pearl.

Hakewill.

Within her breast though calm, within her breast though pure,

Motherly cares and fears got head, and raised Some troubled thoughts.

Milton's Paradise Regained.

This stopping of the stomach might be the *mother*; forasmuch as many were troubled with *mother fits*, although few returned to have died of them.

Graunt's Bills.

I might shew you my children, whom the rigour of your justice would make complete orphans, b.ing already *motherless*.

Waller's Speech to the House of Commons.

Boccace lived in the same age with Chaucer, had the same genius, and followed the same studies; both writ novels, and each of them cultivated his *mother tongue*.

Dryden.

The strongest branch leave for a standard, cutting off the rest close to the body of the *mother plant*.

Mortimer's Husbandry.

When I see the *motherly* airs of my little daughters, when playing with their little puppets, I cannot but flatter myself that their husbands and children will be happy in the possession of such wives and *mothers*.

Addison's Spectator.

The good of *mother church*, as well as that of civil society, renders a judicial practice necessary.

Ayliffe's Parergon.

The resemblance of the constitution and diet of the inhabitants to those of their *mother country*, occasions a great affinity in the popular diseases.

Arbutnot on Air.

My concern for the three poor *motherless* children obliges me to give you this advice.

Arbutnot.

Though she was a truly good woman, and had a sincere *motherly* love for her son John, yet there wanted not those who endeavoured to create a misunderstanding between them.

Id.

How gladly would the man recall to life

The boy's neglected sire! a *mother* too,

That softer friend, perhaps more gladly still,

Might he demand them at the gates of death.

Cowper.

These might have been her destiny, but no,

Our hearts deny it: and so young, so fair,

Good without effort, great without a foe,

But now a bride and *mother*.

Byron.

MOTHER, *v. n.* & *n. s.* Belg. *moeder*, mud.

Lees; concretion; to gather concretion.

If the body be liquid, and not apt to putrefy totally, it will cast up a *mother*, as the *mothers* of distilled waters.

Bacon.

Potted fowl, and fish come in so fast,

That ere the first is out the second stinks,

And mouldy *mother* gathers on the brinks.

Dryden.

They oint their naked limbs with *mothered* oil.

Id.

MOTION, *n. s.* } Fr. *motion*; Ital. *mozioni*;
MOTIONLESS. } Lat. *motio*. The act of moving; movement made; change of place, or pos-

ture; agitation; intestine action; military march - applied metaphorically to movements of the mind, and hence to proposals made, or measures propounded; in obsolete language, a puppet-show. Motionless, devoid of motion.

What would you with me?

—Your father and my uncle have made *motions*; if it be my luck, so; if not, happy man be his dote.

Shakspeare.

If our queen and this young prince agree,

I'll join my younger daughter, and my joy,

To him forthwith, in holy wedlock bands.

—Yes, I agree, and thank you for your *motion*. *Id.*

He compassed a *motion* of the prodigal son, and married a tinker's wife, within a mile where my land lies.

Id.

Whether that *motion*, vitality and operation, were by incubation, or how else, the manner is only known to God.

Raleigh.

Carnality within raises all the combustion without: this is the great wheel to which the clock owes its *motion*.

Decay of Piety.

A Christian's *motion*, after he is regenerate, is made natural to Godward; and therefore, the nearer he comes to heaven, the more zealous he is.

Bp. Hall.

Immediate are the acts of God, more swift

Than time or *motion*.

Milton.

Speaking or mute, all comeliness and grace

Attend thee, and each word, each *motion* form.

By quick instinctive *motion* up I sprung.

Id.

See the guards

By me encamped on yonder hill, expect

Their *motion*.

Id.

We cannot free the lady that sits here,

In stony fetters fixed, and *motionless*.

Id.

Virtue too, as well as vice, is clad

In flesh and blood so well, that Plato had

Beheld, what his high fancy once embraced,

Virtue with colours, speech and *motion* graced.

Waller.

Love awakes the sleepy vigour of the soul,

And, brushing o'er, adds *motion* to the pool.

Dryden.

Ha! Do I dream? Is this my hoped success?

I grow a statue, stiff and *motionless*.

Id.

Let a good man obey every good *motion* rising in his heart, knowing that every such *motion* proceeds from God.

South.

The soul

O'er ministerial members does preside,

To all their various provinces divide,

Each member move, and every *motion* guide.

Blackmore.

Should our globe have had a greater share Of this strong force, by which the parts cohere; Things had been bound by such a powerful chain, That all would fixed and *motionless* remain. *Id.*

Cease, cease, thou foaming ocean,

For what's thy troubled *motion*

To that within my breast?

Gay.

In general I must take notice that the nature of our constitution seems to be very much mistaken by the gentlemen who have spoken in favour of the *motion*.

Sir R. Walpole.

Virtue seems to be nothing more than a *motio* consonant to the system of things; were a planet to fly from its orbit, it would represent a vicious man.

Shenstone.

All that have *motion*, life, and breath

Proclaim your Maker blest!

Watts

MOTION, ANIMAL, that which is performed by animals at the command of the mind or will. Though all the motions of animals, whether voluntary or involuntary, are performed by means of the muscles and nerves, yet neither these nor the subtle fluid which resides in them are to be accounted the ultimate sources of animal motion. They depend entirely upon the will for those motions which are properly to be accounted animal. All the involuntary motions, such as those of the blood, the heart, muscles, organs subservient to respiration and digestion, &c., are to be classed with those of vegetables: for, though no vegetables have them in such perfection as animals, there are yet traces of them to be found evidently among vegetables, and that so remarkably that some have imagined the animal and vegetable kingdoms to approach each other so nearly that they could scarcely be distinguished by a philosophic eye. Though all animals are endowed with a power of voluntary motion, yet there is a very great variety in the degrees of that power; to determine which no certain rules can be assigned; neither can we, from the situation and manner of life of animals, derive any probable reason why the motion of one should differ so much from that of another. This difference does not arise from their size, their ferocity, their timidity, nor any other property that we can imagine. The elephant, though the strongest land animal, is by no means the slowest in its motions; the horse is much swifter than the bull, though there is not much difference in their size; a greyhound is much swifter than a wild cat, though the former is much larger, and though both live in the same manner, viz. by hunting. Among insects the same unaccountable diversity is observable. This very remarkable circumstance seems not even to depend on the range which animals are obliged to take in order to procure food for themselves. Of all animals the shell-fish move the slowest, inasmuch that some have supposed them to be entirely destitute of loco-motive powers; and muscles particularly are denied to have any faculty of this kind. Every one knows that these animals can open and shut their shells at pleasure; and it cannot escape observation, that in every muscle there is a fleshy protuberance of a much redder color than the rest. This has been thought to be a tongue or proboscis, by which the animal takes in its food; but is in reality the instrument of its motion from place to place. This protuberance is divided into two lobes, which perform the office of feet. When the river muscle is inclined to remove from its station, it opens its shell, thrusts out this protuberance, and digs a furrow in the sand: and into this furrow, by the action of the same protuberance, the shell is made to fall in a vertical position. It is recovered out of this into the former horizontal one, by pushing back the sand with the same tentacula, lengthens the furrow, and thus the animal continues its journey by a continual turning topsy turvy. Marine muscles perform their motions in the same manner, and by similar instruments. In general they are firmly attached to rocks or small stones by threads, about two inches long, which are spun from a glut-

nous substance in the protuberance already mentioned. Other animals which dwell in bivalved shells perform their motions by a kind of leg or foot; which, however, they can alter into almost any figure they please. By means of this leg they can not only sink into the mud, or rise out of it at pleasure, but can even leap from the place where they are; and this can be done by the limpet, which people are apt to imagine one of the most sluggish animals in nature. When this creature is about to make a spring, it sets its shell on edge, as if to diminish friction; then, stretching out the leg as far as possible, it makes it embrace a portion of the shell, and by a sudden movement, similar to that of a spring let loose, it strikes the earth with its leg, and leaps to a considerable distance. The spout, or razor fish, is said to be incapable of moving forward horizontally on the surface; but it digs a hole sometimes two feet deep in the sand, in which it can ascend or descend at pleasure. The leg, by which it performs all its movements, is fleshy, cylindrical, and pretty long; and the animal can at pleasure make it assume the form of a ball. When lying on the surface of the sand, and about to sink into it, the leg is extended from the inferior end of the shell, and makes the extremity of it take on the form of a shovel, sharp on each side, and terminating in a point. With this instrument the animal makes a hole in the sand; after which it advances the leg still farther into it, makes it assume the form of a hook, and with this, as a fulcrum, it obliges the shell to descend into the hole. This operation is continued until the whole shell is covered; and, when the animal wishes to regain the surface, it makes the extremity of the leg to assume the form of a ball, and makes an effort to extend it. The ball, however, prevents any farther descent, and the reaction of the muscular effort raises up the whole shell, which operation is continued until it reaches the surface; and it is surprising with what facility these motions are accomplished by an animal seemingly so little qualified to move at all. Another particularity in this fish is, that, though it lives among salt water, it abhors salt so much that when a little is thrown into its hole it instantly leaves it. But it is still more remarkable, that if you once take hold of the spout-fish, and then allow it to retire into its hole, it cannot then be driven out by salt; though, unless it be taken hold of by the hand, the application of salt will make it come to the surface as often as you please. See SOLEX. All other shell-fish, even those apparently the most sluggish and destitute of any apparatus for motion, are found to be furnished with such instruments as enable them to perform all those movements for which they have any occasion. Thus the scallop, a well known animal, inhabiting a bivalved shell, can both swim upon the surface of water and move upon land. When it happens to be deserted by the tide, it opens its shell to the full extent, and, shutting it again with a sudden jerk, the reaction of the ground gives such an impulse to the whole, that it sometimes springs five or six inches from the ground; and, by a continued repetition of this action, it gradually tumbles forward until it regains the

water. Its method of sailing is still more curious. Having attained the surface of the water, by means unknown to us, it opens the shell, and puts one half above water, the other with the body of the animal in it remaining below. Great numbers of them are thus frequently seen sailing in company, with their shells sticking up above water, when the weather is fine, and the wind acting upon them as sails; but on the least alarm they instantly shut their shells, and fall sink to the bottom together. See PECTEN. The oyster has generally been supposed one of the most sluggish animals in nature, and totally incapable of voluntary motion; but, from the researches of the abbé Dicquemarre, this opinion seems to be erroneous. The oyster, like many other bivalved shell-fish, has a power of squirting water out from its body; and this property may easily be observed by putting some of them into a plate with as much sea-water as will cover them. The water is ejected with so much force as not only to repel the approach of ordinary enemies, but to move the whole animal backwards or sideways in a direction contrary to that in which the water was ejected. It has been also supposed that oysters are destitute of sensation; but M. Dicquemarre has shown, that they not only possess sensation, but that they are capable of deriving knowledge from experience. When removed from such places as are entirely covered with the sea, when destitute of experience, they open their shells and die in a few days; but if they happen to escape this danger, and the water covers them again, they will not open their shells again, but keep them shut, as if warned by experience to avoid a danger similar to what they formerly underwent. See OSTREA. The motions of the sea-urchin are perhaps more curious and complicated than those of any other animal. It inhabits a beautiful multivalved shell, divided into triangular compartments, and covered with great numbers of prickles; from which last circumstance it receives the name of sea-urchin, or sea hedge-hog. The triangles are separated from one another by regular belts, perforated by a great number of holes, from every one of which issues a fleshy horn similar to that of a snail, and capable of moving in a similar manner. The principal use of these horns seems to be to fix the animal to rocks or stones, though it likewise makes use of them in progressive motion. By means of these horns and prickles it is enabled to walk, either on its back or its belly; but it most commonly makes use of those which are near the mouth. Occasionally it has a progressive motion by turning round like a wheel. 'Thus,' says Mr. Smellie, in his *Philosophy of Natural History*, 'the sea-urchin furnishes an example of an animal employing many thousand limbs in its various movements. The reader may try to conceive the number of muscles, fibres, and other apparatus which are requisite to the progressive motion of this little animal. Some animals move backwards, apparently with the same facility that they do forwards, and that by means of the same instruments which move them forward. The common house fly exhibits an instance of this, and frequently employs this retrograde motion in its ordinary courses;

though we cannot know the reason or its employing such an extraordinary method. Another remarkable instance is given by Mr. Smellie in the mason-bee.

MOTION, PERPETUAL, in mechanics, a motion which is supplied and renewed from itself, without the intervention of any external cause; or an uninterrupted communication of the same degree of motion from one part of matter to another, in a circle or other curve returning into itself, so that the same momentum still returns undiminished upon the first mover. The celebrated problem of a perpetual motion consists in the inventing a machine which has the principle of its motion within itself. To find a perpetual motion, or to construct an engine, &c., which shall have such a motion, is a famous problem that has employed the mathematicians for 2000 years.

MOTION, VEGETABLE. Though vegetables have not the power of moving from one place to another like animals, they are nevertheless capable of moving their different parts in such a manner as would lead us to suspect that they are actuated by a sort of instinct. Hence many have been induced to suppose that the animal and vegetable kingdoms are in a manner indistinguishable from one another; and that the highest degree of vegetable life can hardly be known from the lowest degree of animal life. The essential and insuperable distinction, however, between the two is the faculty of sensation, and loco-motion in consequence of it. Were it not, indeed, for the manifestation of sense by moving from one place to another, we should not be able to tell whether vegetables were possessed of sensation or not; but, whatever motions they may be possessed of, it is certain that no vegetable has the faculty of moving from one place to another. Some have endeavoured to distinguish the two kingdoms by the digestion of food; alleging that plants have no proper organs, such as a stomach, &c., for taking in and digesting their aliment. But to this it has been replied, that the whole body of a vegetable is a stomach, and absorbs its food at every pore. This, however, seems not to be a sufficient answer. All animals take in their food at intervals; and there is not a single instance of one which eats perpetually. The food is also taken into the body of the animal, and application of the parts made by means of the internal organisation of the viscus; but in vegetables, their whole bodies are immersed in their food, and absorb it by the surface, as animal bodies will sometimes absorb liquids when put into them. The roots of a tree, indeed, will change their direction when they meet with a stone, and will turn from barren into fertile ground; but this is evidently mere mechanism, without any proof of will or sensation; for the nourishment of the root comes not from the stone, but from the earth around it; and the increase in size is not owing to any expansion of the matter which the root already contains, but to the opposition of new matter; whence the increase of size must always take place in the direction whence the nourishment proceeds. On this principle also may we explain the reason why the roots of a

tree, after having arrived at the edge of a ditch, instead of shooting out into the air, will creep down one side, along the bottom and up the other. In their movements, vegetables discover nothing like sensation or design. They will, indeed, uniformly bend toward light or toward water; but in the one case we must attribute the phenomenon to the action of the light and air upon them; and, in the latter, the property seems to be the same with what in other cases we call attraction. Thus, if a root be uncovered, and a wet sponge placed near it in a direction different from that in which the root was proceeding, it will soon alter its position, and turn towards the sponge; and thus we may vary the direction of the root as often as we please. The efforts of a plant to turn from darkness or shade into sunshine are very remarkable; as, to accomplish this, not only the leaves will be inclined, but even the stems and branches twisted. When a wet sponge is held under the leaves of a tree, they bend down in order to touch it. If a vessel of water be put within six inches of a growing cucumber, in less than twenty-four hours the latter will alter its direction: the branches will bend towards the water, and never alter their course until they come in contact with it. The most remarkable instance of this kind of motion, however, is, that when a pole is brought near a vine, the latter will turn towards it, and never cease extending its branches till it lays hold of the support. The motions of the sensitive plant, and others of the same kind, have been considered as very wonderful; but it is doubtful if any of them be really more so than that of the vine. None of those show any kind of propensity to move without an actual touch. A very slight one, indeed, makes the sensitive plant contract, and the whole branch, together with the leaves, bend down towards the earth. See *MIMOSA*. This is so similar to some phenomena of electricity, that few will hesitate to ascribe both to the same cause. Even the motions of the *hedysarum gyrans*, which at first sight seem so much more surprising than those of the sensitive plant, may be explained upon the same principle. See *HEDYSARUM*. There is a specimen of this plant in the botanic garden at Edinburgh. It is a native of the East Indies, and its motions are occasioned by the sun-beams. The leaves are the only moveable parts. They are supported by long foot-stalks; and, when the sun shines upon them, they move briskly in every direction. Their most usual motion is upward and downward; but often they turn almost quite round, and then the foot-stalks are evidently twisted. These motions continue only while the light and heat of the sun continue, ceasing at night, or when the weather becomes cloudy and cold. The American plant called *Dionæa muscipula*, or Venus's fly-trap, is another example of very wonderful mechanism in vegetables, though even this does not argue any degree of sensation in this plant more than in others. The leaves of the *dionæa* are jointed, and furnished with two rows of prickles. A number of small glands upon the surface secrete a sweet juice, which entices flies to come and settle upon it; but, the moment these insects

touch the fatal spot, the leaves fold up, and squeeze them to death between the prickles. The leaves fold up in the same manner when the plant is touched with a straw or pin. See *ΔΙΟΝÆΑ*. The folding up of the leaves of certain plants in the absence of the sun's light, called their sleep, affords another very curious instance of vegetable motion. Almost all vegetables, indeed, undergo such a remarkable change in the night, that it is difficult to know exactly how many kinds do really sleep. They fold up their leaves in many different ways; but all agree in disposing of them in such a manner as to afford the best protection to the young stems, flower-buds or fruit. The leaves of the tamarind tree contract round the young fruit, to protect it from nocturnal cold; and those of senna, *glycina*, and many other papilionaceous plants, dispose of their leaves in the same manner. The leaves of the chickweed, *asclepias*, *atriplex*, &c., are disposed in opposite pairs. In the night-time they rise perpendicularly, and join so close at the top that the flowers are concealed by them. In like manner do the leaves protect the flowers of the *sida*, or *althæa theophrasti*, the *ayenia*, and *œnothera*, the *solanum*, and the Egyptian vetch. All these are erected during the night; but those of the white lupine, in time of sleep, hang down. The flowers of plants also have motions peculiar to themselves. Many of them during the night are enclosed in their calyxes. Some, particularly those of the German spurge, *geranium striatum*, and common Whitlow grass, when asleep, bend towards the earth; by which means the noxious effects of rain or dew are prevented. All these motions have been commonly ascribed to the sun's rays; and Mr. Smellie informs us that, in some of the examples above mentioned, the effects were evidently to be ascribed to heat; but plants kept in a hot-house, where the temperature of the day and night are alike, contract their leaves, and sleep in the same manner as if they were exposed to the open air: 'whence it appears,' says he, 'that the sleep of plants is owing rather to a peculiar law, than to a quicker or slower motion of the juices.' He suspects, therefore, that as the sleep of plants is not owing to the mere absence of heat, it may be occasioned by the want of light; and to ascertain this he proposes an experiment of throwing upon them a strong artificial light. On this, however, we must remark, that the throwing of artificial light upon plants cannot be attended with the same effects as that of the light of the sun, unless the former were as strong as the latter, which is impossible; and, even though we could procure an artificial light as strong as that of the sun, a difference might be occasioned by the different direction of the rays, those of the sun being very nearly parallel, while the rays of all artificial light diverge very greatly. If, therefore, we are to make an experiment of this kind, the rays should be rendered parallel by means of a burning mirror. Here again we should be involved in a difficulty; for the rays of the sun proceed all in one direction; but as of necessity we must employ different mirrors in our experiment, the light must fall upon the plant in different direc-

tions, so that we could not reasonably expect the same result as when the plants are directly exposed to the rays of the sun. The motion of plants not being deducible from sensation, as in animals, must be ascribed to that property called irritability; and this property is possessed insensibly by the parts of animals in a greater degree than even by the most irritable vegetable. The muscular fibres will contract on the application of any stimulating substance, even after they are detached from the body to which they belonged. The heart of a frog will continue to beat when pricked with a pin for several hours after it is taken out of the body. The heart of a viper or of a turtle beats distinctly from twenty to thirty hours after the death of these animals. When the intestines of a dog, or any other quadruped, are suddenly cut into different portions, all of them crawl about like worms, and contract upon the slightest touch. The heart, intestines, and diaphragm, are the most irritable parts of animal bodies; and, to discover whether this quality resides in all plants, experiments should be made chiefly on leaves, flowers, buds, and the tender fibres of the roots. The motions of plants are universally ascribed by our author to irritability. The term, however, requires an explanation; and to give this in an intelligible manner, requires some attention.

MOTIVE, *adj.* & *n. s.* Lat. *motivus*; Fr. *motif*; Ital. *motive*. Causing motion; having the quality or capacity of motion: hence that which determines the mind, or excites to action; a mover. See the instances from Shakspeare.

Shall every *motive* argument used in such kind of conferences be made a rule for others still to conclude the like by, concerning all things of like nature, when as probable inducements may lead them to the contrary? *Hooker.*

Hereof we have no commandment, either in nature or scripture, which doth exact them at our hands; yet those *motives* there are in both, which draw most effectually our minds unto them. *Id.*

Why in that rawness left you wife and children, Those precious *motives*, those strong knots of love, Without leave-taking? *Shakspeare. Macbeth.*

Heaven brought me up to be my daughter's dower;

As it hath fated her to be my *motive* And helper to a husband. *Shakspeare.*

Her wanton spirits look out At every joint and *motive* of her body. *Id.*

The nerves serve for the conveyance of the *motive* faculty from the brain; the ligatures for the strengthening of them, that they may not flag in motion. *Wilkins.*

The *motive* for continuing in the same state is only the present satisfaction in it; the *motive* to change is always some uneasiness. *Locke.*

What can be a stronger *motive* to a firm trust in our Maker, than the giving us his Son to suffer for us? *Addison.*

We ask you whence does *motive* vigour flow? *Blackmore.*

That fancy is easily disproved from the *motive* power of souls embodied, and the gradual increase of men and animals. *Bentley.*

Prudent men look up their *motives*; letting familiars have a key to their heart as to their garden. *Shenstone.*

Let passion do what nobler *motive* should; Let love and emulation rise in aid To reason, and persuade thee to be—blessed. *Young.*

MOTLEY, *adj.* By some writers supposed to be corrupted from medley; or, perhaps, says Johnson, from mothlike, colored, spotted, or variegated like a moth. Mingled; of various colors.

They that come to see a fellow In a long *motley* coat, guarded with yellow, Will be deceived. *Shakspeare. Henry VIII.*
Expence and after-thought, and idle care, And doubts of *motley* hue, and dark despair. *Dryden.*

An author might as well think of weaving the adventures of Æneas and Hudibras into one poem, as of writing such a *motley* piece of mirth and sorrow. *Addison.*

Traulus, of amphibious breed, *Motley* fruit of mungrel seed; By the dam from lordlings sprung, By the sire exhaled from dung. *Swift.*

MOTOR, *n. s.* Fr. *moteur*; Lat. *moveo*. A mover: a word altogether redundant.

Those bodies being of a congenerous nature, do readily receive the impressions of their *motor*; and, if not fettered by their gravity, conform themselves to situations, wherein they best unite unto their animator. *Broune's Vulgar Errors.*

The bones, were they dry, could not, without great difficulty, yield to the plucks and attractions of the *motory* muscles. *Ray on the Creation.*

MOTRIL, a town of the south of Spain, in Granada, with a harbour on the Mediterranean. It has 4500 inhabitants, who trade in wine, linen, and chestnuts. The environs produce sugar; but the cultivation is of late much limited. Four miles east of Malaga.

MOTTE (Anthony Houdart de la), an ingenious Frenchman, greatly distinguished by his writings in prose and verse, and by his literary contests with many eminent persons, was born at Paris in 1672. His literary paradoxes, his singular systems, in all branches of polite learning, and above all his judgment upon the ancients, raised him up formidable adversaries. Racine, Boileau, Rousseau, Madam Dacier, &c., avenged antiquity on an author who, with more wit than learning, assumed a dictatorial authority in the belles lettres. He became blind in the latter years of his life, and died in 1731. He was beloved for the urbanity of his temper. Once in a crowd he chanced to tread on the foot of a young man, who immediately struck him. 'Sir,' said he, 'you will be sorry for what you have done—I am blind.' He wrote many poems, tragedies, comedies, pastorals, and fables; besides a vast variety of discourses, critical and academical, in prose. A complete edition of all his works was published in 11 vols. 8vo., in 1754.

MOTTE ISLE, an island in lake Champlain, at the entrance of Richlieu River, near the tongue of land which forms Missiqui Bay. It is about eight miles in length and two in breadth, and is distant two miles west of North Hero Island. It constitutes a township of its own name in Franklin county, Vermont.

MOTTE (St. Jean de la), a town in the central

part of France, department of the Sarthe, with 1800 inhabitants.

MOTTO, *n. s.* Ital. *motto*, Fr. *mot*. A sentence or word added to an heraldic device, or prefixed to any thing written.

Men in a party have liberty only for their *motto*; in reality they are greater slaves than any body else would care to make them. *Saville.*

It may be said to be the *motto* of human nature, rather to suffer than to die. *L'Estrange.*

We ought to be meek-spirited, till we are assured of the honesty of our ancestors; for covetousness and circumvention make no good *motto* for a coat. *Collier.*

It was the *motto* of a bishop eminent for his piety and good works, in king Charles the second's reign, *Inservi Deo et lætare, Serve God and be cheerful.*

Addison's Freeholder.

MOTTO, in heraldry, a short sentence or phrase, carried in a scroll, generally under, but sometimes over the arms; sometimes alluding to the bearing, sometimes to the name of the bearer, and sometimes containing whatever pleases the fancy of the deviser. See **HERALDRY**.

MOUDON, or **MILDEN**, a town in the canton of Vaud, Switzerland, on the river Broye. Part of it is level: but the rest stands on the declivity of a steep hill, from which a rivulet descends through the lower town under arches, and flows with great rapidity into the Broye. The town contains 2400 inhabitants, and is of great antiquity, being mentioned under the name of *Moledunum* by Antonine. It is thought to have been one of the towns which the *Helvetii* burned in the time of Cæsar. Thirteen miles N. N. E. of Lausanne.

MOVE, *v. a. & n. s.*
MOVEABLE, *adj. & n. s.*
MOVEABLY, *adv.*
MOVELESS, *adj.*
MOVEMENT, *n. s.*
MOV'ENT, *adj. & n. s.*
MOV'ER, *n. s.*
MOV'ING, *part. adj.*
MOV'INGLY, *adv.*

Fr. *mouvoir*; Lat. *moveo*. To put in motion; impel; lead on; drive; excite to turbulence or commotion; conduct into orderly motion: hence (meta.) to give mental impulse to;

propose; recommend; persuade; prevail on or over; affect the passions or feelings; touch pathetically; make angry: as a neuter verb, to be in motion; proceed from place to place; change posture; have vital action; walk: as a substantive, the act of moving; motion made, as at chess. Moveable is unfix'd; capable of being moved; that which may be moved. Moveably, so as it may be moved. Moveless, incapable of motion; unmoved. Movement, motion made; manner of moving. Movent, as an adjective, causing motion: movent and mover, that which moves another thing or person; mover is also he, or that, which moves; and he who proposes any thing. Moving, affecting; pathetic; influential on the passions. Movingly, pathetically; passionately.

And whanne gret flood was maad, the flood was hurld to that hous: and it myghte not *move* it, for it was foundid on a sad stoon. *Wiclif. Luk. 6.*

Every *moving* thing that liveth shall be meat for you. *Genesis.*

When they were come to Bethlehem, all the city was *moved* about them. *Ruth. i. 19.*

Sinai itself was *moved* at the presence of God. *Psaln lxxviii.*

In him we live, *move*, and have our being. *Acts xvii. 28*

So she departed full of grief and sdaine, Which only did to great impatience *move* her. *Spenser's Faerie Queene.*

In the vast wilderness, when the people of God had no settled habitation, yet a *moveable* tabernacle they were commanded of God to make. *Hooker.*

The choice and flower of all things profitable in other books, the Psalms do both more briefly and more *movingly* express, by reason of that poetical form wherewith they are written. *Id.*

Gritus offered the Transylvanians money; but minds desirous of revenge were not *moved* with gold. *A thousand knees,*

Ten thousand years together, naked, fasting, Upon a barren mountain, and still Winter In storm perpetual, could not *move* the gods To look that way thou wert. *Shakspeare.*

If he see aught in you that makes him like, That any thing he sees, which *moves* his liking, I can with ease translate it to my will. *Id.*

From those bloody hands Throw your distempered weapons to the ground, And hear the sentence of your *moved* prince. *Id.*

Within this three mile may you see it coming; I say a *moving* grove. *Id. Macbeth.*

Let him that *moved* you hither, Remove you hence; I knew you at the first, You were a *moveable*.

—Why, what's a *moveable*? —A joined stool. *Id. Taming of the Shrew.*

We seize The plate, coin, revenues, and *moveables*, Whereof our uncle Gaunt did stand possessed. *Shakspeare.*

O thou eternal *Mover* of the heavens, Look with a gentle eye upon this wretch. *Id.*

I would have had them write more *movingly*. *Id.* When he made his prayer, he found the boat he was in *moveable* and unbound, the rest remained still fast. *Bacon.*

They find a great inconvenience in *moving* their suits by an interpreter. *Davies on Ireland.*

Could any power of sense the Roman *move* To burn his own right hand? *Davies.*

They are to be blamed alike, who *move* and who decline war upon particular respects. *Hayward's Edward VI.*

Sometimes the possibility of prement prevailing with the credulous, expectation of less expence with the covetous, opinion of ease with the fond, and assurance of remoteness with the unkind parents, have *moved* them without discretion to engage their children in adventures of learning, by whose return they have received but small contentment. *Wotton.*

Needs must they come whom God brings; his hand is in all the motions of his meanest creatures. Not only we, but they *move* in him. *Bp. Hall.*

If the first consultation be not sufficient, the will may *move* a review, and require the understanding to inform itself better. *Bp. Bramhall against Hobbes.*

I saw two angels play'd the mate; With man *as* no otherwise it proves, An unseen hand makes all their *moves*. *Cowley.*

The strength of a spring were better assisted by the labour of some intelligent *mover*, as the heavenly orbs are supposed to be turned. *Wilkins.*

The pretext of piety is but like the hand of a clock, set indeed more conspicuously, but directed wholly by the secret *movings* of carnality within. *Decay of Piety.*

Then feed on thoughts, that voluntary *move* Harmonious numbers. *Milton*

Their starry dance in numbers that compute
Days, months, and years, towards his all-cheering
lamp,
Turn swift their various motions. *Id.*

The sun
Had first his precept so to *move*, so shine,
As might affect the earth with cold and heat.

The senses represent the earth as *immoveable*; for
though it do *move* in itself, it rests to us who are
carried with it. *Glanville.*

That there is a motion which makes the vicissitudes
of day and night, sense may assure us; but
whether the sun or earth be the common *movent* cannot
be determined but by a further appeal.

Id. Scepſis.
You as the soul, as the first *mover* you,
Vigour and life on every part bestow. *Waller.*

The lungs, though untouched, will remain *moveless*
as to any expansion or contraction of their substance.

The lunar month is natural and periodical, by
which the *moveable* festivals of the Christian church
are regulated. *Holder.*

To Indamora you my suit must *move*. *Dryden.*

When she saw her reasons idly spent,
And could not *move* him from his fixed intent,
She flew to rage. *Id. Æneid.*

Should a shipwrecked sailor sing his woe,
Would'st thou be *moved* to pity, or bestow
An alms? *Id. Persius.*

See great Marcellus! how inured in toils
He moves with manly grace, how rich with regal
spoils. *Id. Æneid.*

Through various hazards and events we *move*
To Latium. *Id.*

Surveys rich *moveables* with curious eye,
Beats down the price, and threatens still to buy.

So orbs from the first *Mover* motion take,
Yet each their proper revolutions make. *Id.*

The will being the power of directing our *opera-*
tive faculties to some action, for some end, cannot at
any time be *moved* towards what is judged at that
time unattainable. *Locke.*

This saying, that God is the place of spirits, being
literal, makes us conceive that spirits *move* up and
down, and have their distances and intervals in God,
as bodies have in space. *Id.*

His back-piece is composed of eighteen plates,
moveably joined together by as many intermediate
skins. *Grew.*

If it be in some part *movent*, and in some part
quiescent, it must needs be a curve line, and so no
radius. *Id. Cosmologia.*

That which *moves* a man to do any thing, must be
the apprehension and expectation of some good from
the thing which he is about to do. *South.*

Any one who sees the Teverone must conclude it
to be one of the most *moveable* rivers in the world,
that it is so often shifted out of one channel into
another. *Addison on Italy.*

His air, his voice, his looks, his honest soul,
Speak all so *movingly* in his behalf,
I dare not trust myself to hear him talk. *Addison.*

Every pert young fellow that has a *moving* fancy,
and the least jingle of vers in his head, sets up for
a writer of songs, and resolves to immortalize his
bottle or his mistress. *Steele.*

Any heat whatsoever promotes the ascent of mi-
neral matter, which is subtle, and is consequently
moveable more easily. *Woodward's Natural History.*

Images are very sparingly to be introduced: their
proper place is in poems and orations, and their use

is to *move* pity or terror, compassion and resentment.

Felton on the Classics.

O let thy sister, daughter, handmaid *move*,
Or all those tender names in one, thy love. *Pope.*

The goddess *moves*
To visit Paphos, and her blooming groves. *Id.*
The Grecian phalanx, *moveless* as a tower,
On all sides battered, yet resists his power. *Id.*

What farther relieves descriptions of battles is
the art of introducing pathetic circumstances about
the heroes, which raise a different *movement* in the
mind, compassion and pity. *Id. Essays.*

Under workmen are expert enough at making a
single wheel in a clock, but are utterly ignorant how
to adjust the several parts, or regulate the *movement*.

The jest is to be a thing unexpected: therefore
your undesigning manner is a beauty in expressions of
mirth; and, when you are to talk on a set subject,
the more you are *moved* yourself the more you will
move others. *Id.*

Time, with all its celerity, *moves* slowly on to him
whose whole employment is to watch its flight.

Johnson.

Thus dream they, and contrive to save a God
The incumbrance of his own concerns, and spare
The great Artificer of all that *moves*
The stress of a continual act, the pain
Of unremitting vigilance and care,
As too laborious and severe a task. *Cowper.*

MOVEMENT of a clock or watch, in its popular
use among us, signifies all the inner works of
a watch, clock, or other engine, which *move*,
and, by that motion, carry on the design of the
machine. The movement of a clock or watch is
the inside, or that part which measures the
time, strikes, &c., exclusive of the frame, case,
dial-plate, &c. The parts common to both these
movements are, the main-spring, with its appur-
tenances, lying on the spring-box, and in the
middle thereof lapping about the spring-arbor,
to which one end of it is fastened. On the top
of the spring-arbor is the endless screw and its
wheel; but in spring clocks this is a ratchet-wheel
with its click that stops it. That which the main
spring draws, and round which the chain or
string is wrapped, is called the fusee; this is
ordinarily taper; in large works going with
weights it is cylindrical, and called the barrel.
The small teeth at the bottom of the fusee or
barrel, which stop it in winding up, is called the
ratchet; and that which stops it when wound up,
and is for that end driven up by the spring, the
garde-gut. The wheels are various: the parts
of a wheel are, the hoop or rim, the teeth, the
cross, and the collet or piece of brass soldered on
the arbor or spindle whereon the wheel is
rivetted. The little wheels playing in the teeth
of the larger are called pinions; and their teeth,
which are four, five, six, eight, &c., are called
leaves; the ends of the spindle are called pivots;
and the guttered wheel, with iron spikes at bot-
tom, wherein the line of ordinary clocks runs,
the pulley. See *Clock*.

MOUFET (Thomas), M. D., a celebrated
English physician, born in London in the six-
teenth century. He practised medicine with
great reputation at Ipswich, but spent the latter
part of his life near Wilton, and died about
1600. He published a work at London in 1634,

folio, entitled *Theatrum Insectorum*. A translation of it was published in London in 1658, folio. Martin Lister gives a very unfavorable opinion of this book, and censures him for quoting Aldrovandus without naming him; but Ray vindicates Moufet, and maintains that he has rendered an essential service to the republic of letters. Moufet was the first who introduced chemical medicines into England.

MOUG-DEN, or Chen-yang, a city of Chinese Tartary, and capital of the country of the Mantchews, or Eastern Tartars. It is ornamented with several public edifices, and provided with magazines of arms and storehouses. They consider it as the principal place of their nation; and, since China has been under their dominion, they have established the same tribunals here as at Peking, excepting that called Lii-pou; these tribunals are composed of Tartars only; their determination is final; and in all their acts they use the Tartar characters and language. The city is built on an eminence: a number of rivers add much to the fertility of the surrounding country. It may be considered as a double city, of which one is enclosed within the other: the interior contains the emperor's palace, hotels of the principal mandarins, sovereign courts, and the different tribunals; the exterior is inhabited by the common people, tradesmen, and all those who, by their employments, are not obliged to lodge in the interior. The latter is almost a league in circumference; and the walls which enclose both are more than three leagues round: these walls were rebuilt in 1631, and repaired several times in the reign of Khang-hi. Near the gates are two magnificent tombs of the first emperors of the reigning family, built in the Chinese manner, and surrounded by a thick wall furnished with battlements; the care of them is entrusted to several Mantchew mandarins, who at stated times perform certain ceremonies; a duty of which they acquit themselves with the same marks of veneration as if their masters were still living.

MOUJGHUR, a town of Hindostan, in Ajmeer, is surrounded on all sides by sand, which frequently has the appearance of a fine lake of water, on which the shrubs and turfs of grass are reflected, and form a perfect mirage. The town, which is surrounded by a high wall and towers, contains some handsome mosques and tombs, and several good wells and reservoirs of rain water. It belongs to a Mahometan chief, whose capital, Bahawalpore, is situated on the bank of the Gharra, or Hyphasis River, and who is tributary to Afghanistan. The inhabitants are Hindoos and Mahometans. This place was visited by Mr. Elphinstone, in 1803, on his embassy to Cabul, and he was hospitably entertained. Long. 72° 20' E., lat. 28° 57' N.

MOULD, *n. s. & v. a.* } Span. *molde*; Lat. }
MOULDABLE, } *modulus*. The matrix }
MOULDER, *n. s.* } in which any thing is }
MOULD'ING. } cast, or receives its }
form; the cast or form received; to form; model; shape. Mouldable is capable of being formed or transformed; shapeable. A moulder, he who uses moulds, or forms any thing into shape. Moulding, an architectural ornament of regular shape.

If the liturgies of all the ancient churches be compared, it may be perceived they had all one original mould. *Hooker.*

My wife comes foremost; then the honoured mould

Wherein this trunk was framed. *Shakespeare.*
Of what coarse metal ye are moulded. *Id.*

New honours come upon him,
Like our strange garments cleave not to their mould,
But with the end of use. *Id. Macbeth.*

You may have fruit in more accurate figures, according as you make the moulds. *Bacon.*

The differences of figurable and not figurable, mouldable and not mouldable, are plebeian notions. *Id. Natural History.*

The king had taken such liking of his person that he resolved to make him a master-piece, and to mould him platonically to his own idea. *Wotton.*

Nor virtue, wit, nor beauty, could
Preserve from death's hand this their heavenly mould. *Curew.*

And now that they have mollified the stiffness of his prejudice, and with much tempering fitted him for their mould, he is a task meet for one of their best workmen. *Bp. Hall.*

William earl of Pembroke was a man of another mould and making, being the most universally beloved of any man of that age; and, having a great office, he made the court itself better esteemed, and more revered in the country. *Clarendon.*

Learn
What creatures there inhabit, of what mould,
Or substance, how ended, and what their power,
And where their weakness. *Milton's Paradise Lost.*

Did I request thee, Maker! from my clay
To mould me man? *Id.*
He forgeth and mouldeth metals, and builds houses. *Hale.*

So must the writer, whose productions should
Take with the vulgar, be of vulgar mould. *Waller.*
From their main-top joyful news they hear
Of ships, which by their mould bring new supplies. *Dryden.*

Sure our souls were near allied, and thine
Cast in the same poetick mould with mine. *Id.*
Hollow mouldings are required in the work. *Moxon.*

We may hope for new heavens and a new earth,
more pure and perfect than the former; as if this
was a refiner's fire, to purge out the dross and coarse
parts, and then cast the mass again into a new and
better mould. *Burnet.*

Hans Carvel, impotent and old,
Married a lass of London mould. *Prior.*
Here in fit moulds to Indian nations known,
Are cast the several kinds of precious stone. *Blackmore.*

By education we may mould the minds and manners
of youth into what shape we please, and give
them the impressions of such habits as shall ever
afterwards remain. *Atterbury.*

Then rose the seed of chaos and of night,
Of dull and vernal, a new world to mould,
And bring Saturnian days of lead and gold. *Dunciad.*

A faction in England, under the name of puritan,
moulded up their new schemes of religion with re-
publican principles in government. *Swift.*

For you alone he stole
The fire that forms a manly soul;
Then, to compleat it ev'ry way,
He moulded it with female clay. *Id. Miscellanies.*

Fabellus would never learn any moral lessons till
they were moulded into the form of some fiction or
fable like those of Æsop. *Watts.*

A heart at ease would have been charmed with my sentiments and reasonings; but as to myself, I was like Judas Iscariot preaching the gospel; he might melt and *mould* the hearts of those around him, but his own kept its native incorrigibility.

Burns.

MOULD, *n. s., v. n., & v. a.* } Sax. mal; Goth.
MOULD'INESS, } and Swed. mal;
MOULD'Y, *adj.* } Goth. malo, rust
or smut. Concretion; fustiness; foulness arising on various substances kept damp: to gather such concretion; to cover with, or corrupt by mould. Mouldiness is the state of being mouldy.

In woods, in waves, in wars she wants to dwell,
And will be found with peril and with pain;
Ne can the man that moulds an idle cell
Unto her happy mansion attain. *Faerie Queene.*

Very coarse, hoary, moulded bread the soldiers thrust upon their spears, railing against Ferdinand, who made no better provision. *Knolles.*

Is thy name mouldy?
—Yea.

—'Tis the more time thou wert used.

—Ha, ha, ha! Most excellent. Things that are mouldy lack use. Well said, Sir John. *Shakspeare.*

All moulds are inceptions of putrefaction, as the moulds of pies and flesh, which moulds turn into worms. *Bacon.*

Moss is a kind of mould of the earth and trees, but may be better sorted as a rudiment of germination. *Id.*

There be some houses wherein sweet meats will relent, and baked meats will mould, more than in others. *Id.*

Flesh, fish, and plants, after a mouldiness, rottenness, or corrupting, will fall to breed worms. *Id. Natural History.*

The malt made in summer is apt to contract mould. *Mortimer.*

The marble looks white, as being exposed to the winds and salt sea-vapours, that by continually fretting it continually preserves it from that mouldy colour which others contract. *Addison.*

A hermit, who has been shut up in his cell in a college, has contracted a sort of mould and rust upon his soul, and all his airs have awkwardness in them. *Watts.*

MOULD, *n. s.* } Sax. molb; Swed. mould;
MOULD'ER, *v. a.* } Goth. mold. Earth; soil;
site of growth; matter of which a thing is made: to moulder is to turn to dust; crumble away.

Though worms devour me, though I turn to mould,
Yet in my flesh I shall his face behold. *Sundys.*

Above the reach of loathful sinful lust,
Whose base effect through cowardly distrust
Of his own wings, dare not to heaven flie,
But like a mouldwarp in the earth doth lie.

Spenser.

If he had sat still, the enemy's army would have moulder'd to nothing, and been exposed to any advantage he would take. *Clarendon,*

When the world began,
One common mass composed the mould of man.

Dryden.

Nature formed me of her softest mould,
Enfeebled all my soul with tender passions,
And sunk me even below my weak sex.

Addison.

Finding his congregation moulder every Sunday, and hearing what was the occasion of it, he resolved to give his parish a little Latin in his 'urn.

Id. Spectator.

The natural histories of Switzerland talk of the fall of those rocks when their foundations have been moulder'd with age, or rent by an earthquake.

Id. on Italy.

Whatsoever moulders, or is wasted away, is carried into the lower grounds, and nothing brought back again. *Burnet.*

To them by smiling Jove 'twas given,
Great William's glories to recall,
When statues moulder, and when arches fall.

Prior.

The black earth every where obvious on the surface of the ground, we call mould. *Woodward.*

Those formed stones despoiled of their shells, and exposed upon the surface of the ground, in time decay, wear, and moulder away, and are frequently found defaced and broken to pieces.

Id. Natural History.

With nodding arches, broken temples spread,
The very tombs now vanished like their dead;
Some felt the silent stroke of mouldering age,
Some, hostile fury. *Pope.*

Are these the forms that moulder'd in the dust?
Oh, the transcendent glory of the just! *Young.*

Those moulds that are of a bright chestnut or hazel colour are accounted the best; next to that the dark grey and russet moulds are accounted best; the light and dark ash-colour are reckoned the worst, such as are usually found on common or heathy ground; the clear tawny is by no means to be approved, but that of a yellowish colour is reckoned the worst of all; this is commonly found in wild and waste parts of the country, and for the most part produces nothing but goss, furs, and fern. All good lands after rain, or breaking up by the spade, will emit a strong smell; that being always the best that is neither too unctuous nor too lean, but such as will easily dissolve; of a just consistence between sand and clay. *Miller.*

MOULD, or MOLD, in the mechanic arts, &c., a cavity artfully cut, with design to give its form or impression to some softer matter applied therein. Moulds are implements of great use in sculpture, foundry, &c. The workmen employed in melting the mineral or metallic glebe dug out of mines, have each their several moulds to receive the melted metal as it comes out of the furnace; but these are different, according to the diversity of metals and works. In gold mines they have moulds for ingots; in silver mines for bars; in copper or lead mines, for pigs or salmons; in tin mines for pigs and ingots; and in iron mines for sows, chimney-backs, anvils, caldrons, pots, and other large utensils and merchandises of iron; which are here cast as it were at first hand.

MOULD, among gold-beaters, a certain number of leaves of vellum or pieces of gut cut square, of a certain size, and laid over one another, between which they put the leaves of gold and silver which they beat on the marble with the hammer. See GOLD LEAF. They have four kinds of moulds, two whereof are of vellum, and two of gut: the smallest of those of vellum consists of forty or fifty leaves; the largest contains 100: for the others, each contains 500 leaves. The moulds have all their several cases, consisting of two pieces of parchment, serving to keep the leaves of the mould in their place, and prevent their being disordered in beating.

MOULD, in ship-building, a thin flexible piece of timber, used by shipwrights as a pattern

whereby to form the different curves of the timbers, and other compassing pieces in a ship's frame. There are two sorts of these, viz. the bend mould and hollow mould; the former of these determines the convexity of the timbers, and the latter their concavity on the outside, where they approach the heel, particularly towards the extremities of the vessel. The figure given to the timbers by this pattern is called their bevelling.

MOULDS of founders of large works, as statues, bells, guns, and other brazen works, are of wax, supported within-side by what we call a core, and covered without-side with a cape or case. It is in the space which the wax took up, which is afterwards melted away to leave it free, that the liquid metal runs, and the work is formed; being carried thither by a great number of little canals, which cover the whole mould. See FOUNDRY.

MOULDS for leaden bullets are little iron pinners, each of whose branches terminates in a hemispherical concave, which, when shut, forms an entire sphere. In the lips or sides where the branches meet is a little jet or hole, through which the melted lead is conveyed.

MOULDS of letter-founders are partly of steel and partly of wood. The wood, properly speaking, serves only to cover the real mould which is within, and to prevent the workman, who holds it in his hand, from being incommoded by the heat of the melted metal. Only one letter or type can be formed at once in each mould.

MOULDS, in the manufacture of paper, are little frames composed of several brass or iron wires, fastened together by another wire still finer. Each mould is of the bigness of the sheet of paper to be made, and has a rim or ledge of wood to which the wires are fastened. These moulds are more usually called frames or forms. See PAPER-MAKING.

MOULDS of moneyers are frames full of sand, wherein the plates of metal are cast that are to serve for the striking of gold and silver coin. See COINAGE. A sort of concave moulds made of clay, having within them the figures and inscriptions of ancient Roman coins, are found in many parts of England, and supposed to have been used for the casting of money. Mr. Baker saw some of these moulds that were found in Shropshire, bearing the same types and inscriptions with some of the Roman coins, and gave an account of them to the Royal Society. They were found among sand at Ryton in Shropshire, a mile from the great Watling Street Road. They are all of the size of the Roman denarius, and of little more than the thickness of a half-penny. They are made of smooth pot or brick clay. There were many of them found together, and some of them are often found in Yorkshire; but they do not seem to have been met with in any other kingdom, except some that were once found at Lyons. They have been sometimes found joined together side by side, on one flat piece of clay, as if intended for casting a great number of coins at once; and all that have been found have been of the emperor Severus. They are sometimes found impressed on both sides, with the head of Severus on one side, and some

well known reverse of his on the other. They seem plainly to have been intended for the coinage of money, though it is not easy to say in what manner they can have been employed to that purpose, especially those which have impressions on both sides, unless it may be supposed that they coined two pieces at the same time by the help of three moulds, of which this was to be the middle one. If, by disposing these into some sorts of iron frame or case, as our letter-founders do the brass moulds for casting their types, the melted metal could easily be poured into them, it would certainly be a very easy method of coining, as such moulds require little time or expense to make, and therefore might be supplied with new ones as often as they break. These moulds seem to have been burnt or baked sufficiently to make them hard; but not so as to render them porous, whereby they would have lost their smooth surface, which in these is so close that whatever metal should be formed in them would have no appearance like the sand-holes by which counterfeit coins and medals are usually detected.

MOULIN (Charles Du), a celebrated civilian, and one of the most learned men of the sixteenth century, was born of a considerable family in Paris in 1500, and acquired great reputation by his skill in the law. He published many works, which have been collected and printed in 5 vols. folio; and are considered as the most excellent works France has produced on the subject of civil law. He died at Paris in 1566.

MOULIN (Peter Du), a protestant divine, of the same family with the former, born in 1568. He taught philosophy at Leyden; and afterwards became chaplain to the princess of Navarre. At the desire of king James I. he came over to England in 1615, and prepared a plan for the union of the Protestant churches. He presided at the synod held by the Calvinists at Alais in 1620. Some time after he retired to Sedan, where the duke of Bouillon made him professor of divinity, and minister. He was employed by the Calvinists in the most important affairs; and died at Sedan in 1658. His principal works are, 1. The Anatomy of Arminianism; 2. A Treatise on Repentance, and the Keys of the Church; 3. The Capuchine; 4. A Defence of the Reformed Churches; 5. The Judge of Controversies and Traditions; 6. The Anatomy of the Mass; 7. The Novelty of Popery.

MOULIN (Peter Du), eldest son of the preceding, was chaplain to Charles II., and prebendary of Canterbury, where he died in 1684, aged eighty-four. He wrote, 1. The Peace of the Soul, in French; 2. Clamor Regii Sanguinis; which Milton, by mistake, attributed to Alexander Morus; 3. A Defence of the Protestant Religion.

MOULIN (Gabriel Du), a French historian and ecclesiastic, who wrote, 1. Histoire Generale de Normandie sous les Ducs; Rouen, 1631, fol.; 2. Histoire des Conquetes des Normans dans les royaumes de Naples et Sicilie, fol.

MOULINET, in mechanics, a roller, which, being crossed with two levers, is usually applied to cranes, capstans, and other sorts of engines of the like nature, to draw ropes, and heave up stones, &c.

MOULINET is also a kind of turnstile, or wooden cross, which turns horizontally upon a stake fixed in the ground: usually placed in passages to keep out cattle, and to oblige passengers to go and come one by one. Those moulinets are often set near the outworks of fortified places at the sides of the barriers, through which people pass on foot.

MOULINS, a large and handsome post town, and the chief place of a prefecture or arrondissement in the department of the Allier, France, having an inferior court of justice, a board of trade and manufactures, societies of rural economy and the arts, a royal court at Riom, a royal college, and a public drawing school, with 13,800 inhabitants. This town stands very pleasantly, in a fertile plain, on the right bank of the Allier, over which there is a noble bridge built of freestone; the streets are clean and airy, adorned with fountains and houses regularly built, mostly of brick. The public squares are planted with fine trees, and have delightful walks within them; the neighbourhood presents beautiful country promenades, formed by fine avenues of poplars. At the gates there is a spring of warm mineral water.

The manufactures of the place consist of tulle, that is in high repute, silk and cotton caps, table and other linen, woollen and cotton yarn; and a trade is carried on in grain, wine, iron, wood, oxen, pigs, &c. The most remarkable public buildings and institutions are the library and cabinet of natural history, the museum, the tomb of the constable Montmorency, the barracks for cavalry, the departmental nursery, and the bridge over the Allier, consisting of ten arches, and level footpaths through its whole length, and from which the view embraces a fine road, in a direct line, for more than three miles. This town is forty-three miles south of Nevers, ninety-one W. S. W. of Châlons-sur-Saône, 139 north-west of Lyons, and 217 south-east of Paris, in long. 1° E., lat. 46° 34' N.

MOULT, *v. n.* } Formerly written *mout*.
MOULTING, *adj.* } Belg. *muyten*, from **MEW**, which see. To shed or change feathers: hence to lose feathers.

Some birds upon *moulting* turn colour, as robin-red-breasts, after their *moulting*, grow to be red again by degrees. *Bacon.*

Time shall *moult* away his wings,

Ere he shall discover

In the whole wide world again

Such a constant lover.

Suckling.

The widowed turtle hangs her *moulting* wings,

And to the woods in mournful murmur sings.

Garth.

MOUNCH, or **MAUNCH**, *v. a.* *Mouch*, to eat much.—Ainsworth. 'This word,' says Macbean, 'is retained in Scotland, and denotes the action of toothless gums on a hard crust, or any thing eatable: it seems to be a corruption of the French word *manger*.'

A sailor's wife had chesnuts in her lap,

And *mouncht*, and *moucht*, and *moucht*.

Shakspeare.

MOUND, *n. s. & v. a.* Sax. *mundian*, to defend; Goth. *mund*, a defence. Any thing raised to fortify or defend; a bank of earth or stone: to fortify with a mound.

His broad branches laden with rich fee,
 Did stretch themselves without the utmost bound
 Of this great garden, compassed with a mound.

Faerie Queene.

The sea is a thief, whose liquid surge resolves
 The mounds into salt tears.

Shakspeare.

God had thrown
 That mountain as his garden mound, high raised.

Milton.

Nor cold shall hinder me with horns and hounds
 To thrud the thickets, or to leap the mounds.

Dryden.

Such as broke through all mounds of law, such as
 laughed at the sword of vengeance which divine
 justice brandished in their faces. *South's Sermons.*

The state of Milan is like a vast garden sur-
 rounded by a noble mound-work of rocks and moun-
 tains. *Addison.*

And Lara sleeps not where his fathers sleep,
 But where he died his grave was dug as deep;
 Nor is his mortal slumber less profound,
 Though priest nor blest, nor marble decked the
 mound. *Byron.*

MOUND, in heraldry, from *mundus*, the world, a globe encircled, and having a cross on the top, as 'He beareth, or, a mound, sable, environed with a circle, and ensigned with a cross avellane, gules; by the name of Chawlas.'



MOUNT, *n. s., v. n., & v. a.*

MOUNTAIN, *n. s. & adj.*

MOUNTAINEER, *n. s.*

MOUNTAINET,

MOUNTAINOUS, *adj.*

MOUNTAINOUSNESS, *n. s.*

MOUNTAIN-PARSLEY,

MOUNTAIN-ROSE,

MOUNTANT, *adj.*

MOUNTER, *n. s.*

MOUNTY.

Fr. mont, monter, montagne;
Ital., Span., and Portug. monte;
Lat. mons, montanus. A hill, natural or artificial; an eminence; heap; hence an accumulated treasure.

See the extract from Bacon. Mr. Thomson thinks the vulgar expression 'a mint,' may be a corruption of 'a mount of money.' To mount is to rise comparatively high; to tower: hence to get on horseback; also, as an active verb, to raise aloft; lift up; place on an elevation, and particularly on horseback; embellish. A mountain is a large hill or elevation of the earth: hence any thing extremely large: as an adjective, it means growing on or pertaining to such elevations. A mountaineer is an inhabitant of a mountainous or hilly country: hence a rustic, or barbarian. Mountainet, a diminutive of mountain. 'Elegant,' says Dr. Johnson, 'but not in use.' Mountainous means abounding in or characterised by mountains; bulky; huge; inhabiting mountains. Mountainousness, quality or state of being mountainous. Mountainparsley and rose, are plants. See **ATHAMANTA** and **ROSA**. Mountant is rising high; aspiring. A mouter, one who mounts or rises. The mounty, is the rise of a hawk.

Jacob offered sacrifice upon the mount.

Gen. xxxi. 54.

Doth the eagle mount up at thy command, and make her nest on high?

Job iii. 27.

Though his excellency mount up to the heavens, and his head reach unto the clouds, yet he shall perish.

Id. xx. 6.

Her breasts sweetly rose up like two fair *mountainets* in the pleasant vale of Tempe. *Sidney.*

Without *mounting* by degrees a man cannot attain unto high things. *Id.*

The sport which Basilius would shew to Zelmane was the *mounty* at a heron, which getting up on his waggling wings with pain, as though the air next to the earth were not fit to fly through, now diminished the sight of himself. *Id.*

He might see what *mounts* they had in short time cast, and what a number there was of warlike soldiers. *Knolles.*

Armenia is so called from the *mountainousness* of it. *Brerewood.*

Mounting his eyes,
He did discharge a horrible oath.

Shakspeare. Henry VIII.

He cried, oh! and *mounted.* *Id. Cymbeline.*

Now for our *mountain* sports up to yond hill,
Your legs are young. *Id.*

Yield, rustic *mountaineer.* *Id.*

A base ignoble mind,
That *mounts* no higher than a bird can soar.

Shakspeare.

The fire that *mounts* the liquor till it runs o'er,
Seeming to augment, wastes it. *Id.*

I had been drowned; a death that I abhor: for the water swells a man, and what should I have been when I had been swelled? I should have been a *mountain* of mummy. *Id.*

You may as well forbid the *mountain* pines
To wag their high tops, and to make a noise,
When they are fretted with the gusts of heaven. *Id.*

What custom wills in all things, should we do't,
Mountainous error would be too highly heapt
For truth to o'erpeer. *Id.*

Hold up, you sluts,
Your aprons *mountant*; your'e not oathable,
Although, I know, you'll swear. *Id.*

The air is so thin, that a bird therein has no feeling of her wings, or any resistance of air to *mount* herself by. *Raleigh.*

And by his false worship such power he did gain,
As kept him o' th' *mountain*, and us on the plain. *Id.*

These examples confirmed me in a resolution to spend my time wholly in writing; and to put forth that poor talent God hath given me, not to particular exchanges, but to banks or *mounts* of perpetuity, which will not break. *Bacon.*

In destructions by deluge and earthquake, the remnant which hap to be reserved are ignorant and *mountainous* people, that can give no account of the time past. *Id. Essays.*

Though they to the earth were thrown,

Yet quickly they regained their own,
Such nimbleness was never shown;

They were two gallant *mounters.*

Drayton's Nymphiad.

The fire of trees and houses *mounts* on high,
And meets half-way new fires that shower from sky. *Cowley.*

If the liturgy should be offered to them, it would kindle jealousy, and as the first range of that ladder, which should serve to *mount* over all their customs. *Clarendon.*

The ark no more now floats, but seems on ground,
Fast on the top of some high *mountain* fixed. *Milton.*

No savage, fierce bandit, or *mountaineer*,
Will dare to soil her virgin purity. *Id.*

Three hundred horses, in high stables fed,
Of these he chose the fairest and the best,
To *mount* the Trojan troop. *Dryden's Æneid.*

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Ambitious meteors set themselves upon the wing, taking every occasion of drawing upward to the sun: not considering that they have no more time allowed them in their *mounting* than the single revolution of a day; and that, when the light goes from them, they are of necessity to fall. *Dryden.*

From Acman's hands a rolling stone there came,
So large, it half deserved a *mountain's* name! *Id.*

Amiterian troops of mighty fame,
And *mountaineers*, that from Severus came. *Id.*

Behold yon *mountain's* hoary height,
Made higher with new *mounts* of snow. *Id.*

Clear reason, acting in conjunction with a well-disciplined, but strong and vigorous fancy, seldom fail to attain their end; fancy, without reason, is like a horse without a rider; and reason without fancy is not well *mounted.* *Grew's Cosmologia.*

The ascent of the land from the sea to the foot of the *mountains*, and the height of the *mountains* from the bottom to the top, are to be computed, when you measure the height of a *mountain*, or of a *mountainous* land, in respect of the sea. *Burnet.*

On earth, in air, amidst the seas and skies,
Mountainous heaps of wonders rise;
Whose tow'ring strength will ne'er submit
To reason's batteries, or the mines of wit. *Prior.*

In vain thy hungry *mountaineers*
Come forth in all their warlike jeers,
The shield, the pistol, dirk, and dagger,
In which they daily wont to swagger. *Tickell.*

A few *mountaineers* may escape, to continue human race; and yet illiterate rusticks, as *mountaineers* always are. *Bentley.*

Bring then these blessings to a strict account,
Make fair deductions, see to what they *mount.*

Few bankers will to heaven be *mounters.* *Swift.*

If man can't *mount*
He will descend. *Young.*

Here rivers in the sea were lost;
There *mountains* to the skies were tost:
Here tumbling billows marked the coast,
With surging foam;

There distant shone Art's lofty boast,
The lordly dome. *Burns.*

Mountains interposed
Make enemies of nations who had else
Like kindred drops been mingled into one. *Cowper.*

The land appeared a high and rocky coast,
And higher drew the *mountains* as they drew,
Set by a current towards it. *Byron.*

Morn dawns; and with it stern Albania's hills,
Dark Sulis' rocks and Pindus' inland peak,
Robed half in mist, bedewed with snowy rills,
Arrayed in many a dun and purple streak,
Arise; and, as the clouds along them break,
Disclose the dwelling of the *mountaineer.* *Id.*

MOUNT DESERT, an island and town on the coast of Maine, in Hancock county, forty miles east of Castine, 295 north-east of Boston. The island is fifteen miles long, and twelve broad. It is situated between Frenchman's and Bluehill bays.

MOUNT HOLLEY, a post town, the capital of Burlington county, New Jersey, near Ancocus Creek, twenty-three miles E. N. E. of Philadelphia. It is a flourishing town, and contains a court-house, jail, market-house, bank, two houses of public worship, one for Episcopalians, and one for Friends, and various valuable mills.

MOUNT PLEASANT, a considerable post-town

of West Chester county, New York, on the east side of the Hudson, thirty-six miles north of New York. Population 3119. This town possesses considerable wealth and trade.

MOUNT PLEASANT, a post town of Jefferson county, Ohio; ten miles north-east of Clarsville, twenty south-west of Steubenville, west 292. It is a flourishing town, and contains a market-house, a bank, and a Friends' meeting-house. In the vicinity there are a woollen manufactory, a paper mill, and other valuable mills.

MOUNT VERNON, a post town of Kennebeck county of Maine, eighteen miles north-west of Augusta, 170 N. N. E. of Boston.

MOUNTS OF PIETY, certain funds or establishments in Italy, where money is lent out on some small security. There were also mounts of piety in England, raised by contribution for the benefit of people ruined by the extortions of the Jews.

A **MOUNTAIN** is a considerable eminence of land, elevated above every thing adjoining to it, and commanding all the surrounding places: it is commonly full of inequalities, cavities more or less exposed, and strata half laid open. This name abbreviated is likewise given to a chain of mountains; as Mount Atlas, Mount Caucasus, &c. Those who have surveyed the earth in general, and studied nature on a grand scale, have constantly been struck with admiration and astonishment at the sight of such majestic eminences which, extending in different ways, seem to rule over the rest of the globe, and which present to the beholder a spectacle equally magnificent and interesting.

According to the Newtonian system, an *attractive power* is not only exerted between those large masses of matter which constitute the sun and planets, but likewise between all comparatively smaller bodies, and even between the smallest particles of which they are composed. Agreeably to this hypothesis, a heavy body, which ought to gravitate or tend towards the centre of the earth, in a direction perpendicular to its surface, supposing the said surface to be perfectly even and spherical, ought likewise, though in a less degree, to be attracted and tend towards a mountain placed on the earth's surface; so that a plumb-line, for instance, of a quadrant, hanging in the neighbourhood of such a mountain, ought to be drawn from a perpendicular situation, in consequence of the attractive power of the quantity of matter of which it is composed acting in a direction different from that exerted by the whole mass of matter in the earth, and with a proportionably inferior degree of force. Though Sir Isaac Newton had long ago hinted at an experiment of this kind, and had remarked that a mountain of an hemispherical figure, three miles high and six broad, would not by its attraction draw the plumb-line 2' (or rather 1' 18") out of the perpendicular: yet no attempt to ascertain this matter by actual experiment was made till about 1738; when the French academicians, particularly Messrs. Bouguer and Condamine, who were sent to Peru to measure a degree under the equator, attempted to discover

the attractive power of Chimborazo, in Quito. According to their observations, Chimborazo exerted an attraction equal to 8'. Though this experiment was not perhaps sufficient to prove satisfactorily even the reality of an attraction, much less the precise quantity of it; yet it does not appear that any steps had been since taken to repeat it. Through the munificence of his Britannic majesty, the Royal Society were enabled to undertake the execution of this delicate and important experiment; the astronomer royal was chosen to conduct it. After various enquiries, the mountain Schehallien, situated nearly in the centre of Scotland, was pitched upon as the most proper for the purpose that could be found in this island. The observations were made by taking the meridian zenith distances of different fixed stars, near the zenith, by means of a zenith sector of ten feet radius; first on the south, and afterwards on the north side of the hill, the greatest length of which extended in an east and west direction. It is evident that, if the mass of matter in the hill exerted any sensible attraction, it would cause the plumb-line of the sector through which an observer viewed a star in the meridian, to deviate from its perpendicular situation, and would attract it contrarywise at the two stations, thereby doubling the effect. On the south side the plummet would be drawn to the northward, by the attractive power of the hill placed to the northward of it: and, on the north side, a contrary and equal deflection of the plumb-line would take place, in consequence of the attraction of the hill, now to the south of it. The apparent zenith distances of the stars would be affected contrarywise; those being increased at the one station which were diminished at the other; and the correspondent quantities of the deflection of the plumb-line would give the observer the sum of the contrary attractions of the hill, acting on the plummet at the two stations; the half of which will of course indicate the attractive power of the hill. The operations requisite for this experiment lasted about four months; and from them it appears that the sum of the two contrary attractions of the mountain Schehallien, in the two temporary observations, which were successively fixed half way up the hill (where the effect of its attraction would be greatest), was equal to 11' 6". From a rough computation, founded on the known law of gravitation and on an assumption that the density of the hill is equal to the mean density of the earth, it appears that the attraction of the hill should amount to about the double of this quantity. Thence it was inferred, that the density of the hill is only about half the mean density of the earth. It does not appear, however, that the mountain Schehallien has ever been a volcano, or is hollow; as it is extremely solid and dense, and seemingly composed of an entire rock. The inferences drawn from these experiments may be reduced to the following: 1. That the mountain Schehallien exerts a sensible attraction; therefore, from the rules of philosophising, we are to conclude that every mountain, and indeed every particle of the earth, is endued with the same

property, in proportion to its quantity of matter. 2. The law of the variation of this force, in the inverse ratio of the squares of the distances, as laid down by Sir Isaac Newton, is also confirmed by this experiment. For if the force of attraction of the hill had been only to that of the earth as the matter in the hill to that of the earth, and had not been greatly increased by the near approach to its centre, the attraction thereof must have been wholly insensible. But now, by only supposing the mean density of the earth to be double to that of the hill, which seems very probable from other considerations, the attraction of the hill will be reconciled to the general law of the variation of attraction in the inverse duplicate ratio of the distances, as deduced by Sir Isaac Newton from the comparison of the motion of the heavenly bodies with the force of gravity at the surface of the earth; and the analogy of nature will be preserved. 3. We may now, therefore, be allowed to admit this law, and to acknowledge that the mean density of the earth is at least double of that at the surface; and consequently that the density of the internal parts of the earth is much greater than near the surface. Hence also, the whole quantity of matter in the earth will be at least as great again as if it had been all composed of matter of the same density with that at the surface: or about four or five times as great as if it were all composed of water. This conclusion, Maskelyne adds, is totally contrary to the hypothesis of some naturalists, who suppose the earth to be only a great hollow shell of matter; supporting itself from the property of an arch, with an immense vacuity in the midst of it. But, were that the case, the attraction of mountains, and even smaller inequalities in the earth's surface, would be very great, contrary to experiment, and would affect the measures of the degrees of the meridian much more than we find they do; and the variation of gravity, in different latitudes, in going from the equator to the poles, as found by pendulums, would not be near so regular as it has been found by experiment to be. 4. As mountains are by these experiments found capable of producing sensible deflections of the plumb-lines of astronomical instruments, it is of great importance in the mensuration of degrees in the meridian, either to choose places where the irregular attractions of the elevated parts may be small; or where, by their situation, they may compensate or counteract the effects of each other.

MOUNTAINS, MARBLE.—Of these there are great numbers in Egypt, from which, though immense quantities have been carried off for the multitude of great works erected by the ancient Egyptians, yet in the opinion of Mr. Bruce, who passed them in his journey to Abyssinia, there is such an abundant mass, that it would be sufficient to build Rome, Athens, Corinth, Syracuse, Memphis, Alexandria, and half a dozen more such cities. The first mountain of this kind mentioned by him is one opposite to Terfowey, consisting partly of green marble, partly of granite, with a red blush upon a gray ground, and square oblong spots. Here he saw a monstrous obelisk of marble, very nearly square, broken at the end, and nearly thirty feet long, and nineteen

feet in the face. Throughout the plain there were scattered small pieces of jasper, with green, white, and red spots, called in Italy diaspro sanguineo; and all the mountains upon that side seem to consist of the same materials. Here also were quantities of small pieces of granite of various kinds, as well as porphyry, which had been carried down by a torrent, probably from the ancient quarries. These pieces were white mixed with black spots, and red with green veins and black spots. All the other mountains on the right hand were of red marble, but no great beauty; those on the opposite side being green marble, probably of the serpentine kind. This, he says, was one of the most extraordinary sights he ever saw. The former mountains were of a considerable height, without a tree, shrub, or blade of grass upon them; and this looked exactly as if it had been covered over with Havannah and Brasil snuff. Proceeding farther on, he entered another defile, with mountains of green marble on every side. The highest he saw appeared to be composed of serpentine marble, having a large vein of green jasper spotted with red running through about one-third of its thickness. It was extremely hard; so that it did not yield to the blows of a hammer, though it was evident that it had formerly been quarried; and there were channels for bringing water, which terminated in this quarry of jasper; 'a proof,' says Mr. Bruce, 'that water was one of the means used in cutting those hard stones.' On these mountains 'the porphyry shows itself by a fine purple sand without any gloss upon it. It is mixed with the white sand and fixed marble of the plains. Green and unvariegated marble is also found in the same mountain with the porphyry. The marble is brittle for some inches where the two veins meet; but the porphyry is as hard as in other places.' There is likewise a kind of red marble with white veins, which our author has seen at Rome and in Britain. The common green, called serpentine, looks as if it were covered with Brasil snuff. Along with this green he saw two samples of the beautiful kind called Isabella; one of them with the yellowish cast of Quaker color, the other of that bluish cast called dove color; and these two seemed to divide the mountains with the serpentine. Here also he saw the vein of jasper. The marble of greatest value, however, is that called verde antico, which is of a dark green color with white spots. It is found, like the jasper, in the mountains of the plain green serpentine, and is not discoverable by the dust or any particular color upon it. Mountains of marble and porphyry are not peculiar to Egypt. They are likewise met with in the north of Scotland; in the Western Isles there are such quantities of these materials as, in the opinion of Mr. Williams, would be sufficient to serve all Europe.

MOUNTAINS OF THE LIONS, mountains of Africa, which divide Nigritia from Guinea, and extend as far as Ethiopia, were styled by the ancients the mountains of God, on account of their being greatly subject to thunder and lightning.

MOUNTAINS OF THE MOON, a chain of mountains in Africa, between Abyssinia and Mono-

motapa, and receiving the above denomination from their great height.

MOUNTAINS, WHITE, a range of mountains in New Hampshire, reckoned the highest in New England. They are visible on land eighty miles distant, and are the first observed at sea. Their Indian name is Agiochochook. The number of summits is unknown, but seven are visible at once. Of these the highest is called Mount Washington. The whole circuit of them is not less than fifty miles. Their height above an adjacent meadow is reckoned to be about 5500 feet, and the meadow is 3500 feet above the level of the sea. The snow and ice cover them nine or ten months in the year; during which time they exhibit that bright appearance from which they are denominated white. From this summit in clear weather is exhibited a noble view, extending sixty or seventy miles in every direction. Although they are more than seventy miles within land, they are seen many leagues off at sea, and appear like an exceedingly bright cloud in the horizon. These immense heights, being copiously replenished with water, afford a variety of beautiful cascades. Three of the largest rivers in New England receive a great part of their waters from them. The Amanoosuck and Israel, two principal branches of Connecticut, fall from their west side. The Peabody, a branch of the Amarisogen, falls from the north-east side; and almost the whole of the Saco descends from the south side. The highest summit of these mountains is about lat. 44° N.

MOUNTAINS, WRITTEN, Mountains of Inscriptions, or Jibbel el Mokatteb, are a mountain or chain of mountains in the wilderness of Sinai; on which, for a great extent of space, the marble is said to be inscribed with innumerable characters, reaching from the ground sometimes to the height of twelve or fourteen feet. These were mentioned by a Greek author in the third century, and some of them have been copied by Pococke, Montague, and other travellers; notwithstanding which, there is still a very great uncertainty even of their existence. The vast number of these inscriptions, the desert place in which they are found, and the length of time requisite for executing the task, once induced a notion that they are the work of the Israelites during their forty years wandering in the wilderness. Others are of opinion that they consist merely of the names of travellers and the dates of their journeys. M. Niebuhr, who visited this country in September 1762, made every attempt in his power, though without success, to obtain a sight of this celebrated mountain. After much vain enquiry, he was at last conducted to some rocks upon which there were inscriptions in unknown characters. They are most numerous in a narrow pass between two mountains named Om-er-ridstein; and, says M. Niebuhr, 'the pretended Jibbel el Mokatteb may possibly be in its neighbourhood.' Some of these inscriptions were copied by our author; but he does not look upon them to be of any consequence. When Niebuhr arrived at last at the mountain to which the sheik had promised to conduct him, he found no inscription, but, on climbing up to the top, he found an Egyptian cemetery, the

stones of which were covered with hieroglyphics. The tomb-stones were from five to seven feet long, some standing on end and others lying flat; and 'the more carefully they are examined,' says he, 'the more certainly do they appear to be sepulchral stones, having epitaphs inscribed on them.' The translator of Volney's Travels ascribes these inscriptions to the pilgrims who visit Mount Sinai; but they ought surely to have been written in a language which somebody could understand; but, from the copies that have been taken of them by Dr. Pococke and others, it does not appear that they could be explained by any person. When Dr. Clayton, bishop of Clogher, visited this part of the world about 1723, he expressed the greatest desire to have the matter concerning these written mountains ascertained, and even made an offer of £500 sterling to any literary person who would undertake the journey, and endeavour to decipher the inscriptions; but no such person appeared.

For mountains, as to their geological character, see **GEOLOGY**. Particular mountains and mountain chains are described in their alphabetical place.

MO'UNTENANCE, *n. s.* Amount of a thing in space. Obsolete.

Of all the remenant of min other care

Ne set I not the mountance of a tare,

So that I coud don ought to your plesance.

Chaucer. Cant. Tales.

This said, they both a furlong's mountenance
Retired, their steeds to runne an even race.

Spenser.

MOUNTEBANK, *n. s.* Fr. *montebanc*; Ital. *montare in banco*. A quack that was commonly seen to mount a bench in markets in former times, and boast his infallible drugs and cures; any juggler or boaster: to mountebank is to cheat; delude by false pretences.

As nimble jugglers that deceive the eye,

Disguised cheaters, prating mountebanks,

And many such like libertines of sin.

Shakespeare.

I'll mountebank their loves,

Cog their hearts from them. *Id. Coriolanus.*

But these two every honest Papist will confess, with voluntary shame and grief; and grant that it may grow a disputable question, whether mountebanks or priests are the greatest cozeners.

Bp. Hall.

She, like a mountebank, did wound

And stab herself with doubts profound,

Only to show with how small pain

The sores of faith are cured again. *Hudibras.*

But Æchylus, says Horace in some page,

Was the first mountebank that trod the stage.

Dryden.

There are mountebanks and smatterers in state.

L'Estrange.

Nothing so impossible in nature but mountebanks will undertake. *Arbuthnot's History of John Bull.*

It looks like a mountebank to boast infallible cures.

Baker.

MOUNT-SORREL, a town in Leicestershire, so named from a high mount or solid rock adjoining to the town, of a dusky, red, or sorrel-colored stone, extremely hard. Of rough stones hewn out of this rock the town is built. It has a market on Monday. It was noted formerly for its castle, and is seated on the Stour, over

which is a bridge It is twenty miles south-east by south of Derby, and 105 north-west by north of London.

MOURA, an old town of Portugal, in the province of Alentejo, on the Guadiana. It has a strong castle, and its public buildings are two parish churches, some convents, and an hospital. Inhabitants 4000. Thirty-seven miles S. S. E. of Evora, and ninety-eight E. S. E. of Lisbon.

MOURAO, a fortified town in the south of Portugal, in the province of Alentejo, near the Guadiana. It stands on a hill, in a rugged fertile district. Inhabitants 2200. It is eighteen miles N. N. E. of Moura, ninety-six east by south of Lisbon, and thirty-two east of Evora.

MOURN, *v. n. & v. a.* Sax. *murnan*; Mæs. *Mourn'ER, n. s.* Goth. *mournan*; Teut. *Mourn'FUL, adj.* *mornen*; Fr. *morne*; *Mourn'FULLY, adv.* Lat. *maror* (Greek *μῦρον, μῦρος*.—Min-MOURN'ING. sheu). To grieve; be sorrowful; wear a funeral or sorrowful habit; bewail; lament; utter sorrow: mournful means sorrowful; expressive of mourning: mourning is used for the utterance and the garb or dress of sorrow: the other derivations are varied by the suffixes in the usual manner.

Abraham came to *mourn* for Sarah, and to weep. *Genesis.*

Feign thyself to be a *mourner*, and put on *mourn-*
ing apparel. *2 Sam. xiv. 2.*

My vineyard, being desolate, *mourneth* unto me. *Jer. xii.*

Wo is me, who will deliver me in those days? the beginning of sorrows and great *mournings*.

2 Esdr. xvi. 18.

We *mourn* in black; why *mourn* we not in blood? *Shakspeare.*

Publish it that she is dead;

Maintain a *mourning* ostentation,
Hang mournful epitaphs.

Id. Much Ado about Nothing.

The kindred of the queen must die at Pomfret.

—Indeed I am no *mourner* for that news,
Because they have been still my adversaries.

Shakspeare.

No funeral rites, nor man in *mournful* weeds,
Nor *mournful* bell shall ring her burial. *Id.*

Upon his tomb
Shall be engraved the sack of Orleans;
The treacherous manner of his *mournful* death. *Id.*

Beat the drum, that it speak *mournfully*. *Id.*

The king spoke of him admiringly and *mourningly*. *Id.*

They rejoice at the presence of the sun, and *mourn*
at the absence thereof. *Bacon's Natural History.*

Lo, joy, and comfort, is the end of *mourners*; and
mourning and weeping is the end of mirth and
laughter. *Bp. Hall.*

A flood thee also drowned,
And sunk thee as thy sons; till gently reared
By the' angel, on thy feet thou stoodst at last,
Though comfortless, as when a father *mourns*
His children, all in view destroyed at once. *Milton.*

The love-lorn nightingale

Nightly to thee her sad song *mourneth* well. *Id.*
The muse that *mourns* him now his happy triumph
sung. *Dryden.*

He lives to be chief *mourner* for his son;
Before his face his wife and brother burn. *Id.*

The *mourner* eugh and builder oak were there. *Id.*

The winds within the quivering branches played,
And dancing trees a *mournful* musick made. *Id.*

They through the master street the corpse conveyed,
The houses to their tops with black were spread,
And even the pavements were with *mourning* hid. *Id.*

A woman that had two daughters buried one, and
mourners were provided to attend the funeral. *L'Estrange.*

Scythia *mourns*

Our guilty wars, and earth's remotest regions
Lie half unpeopled by the feuds of Rome. *Addison.*

To cure thy woe, she shews thy fame;
Lest the great *mourner* should forget

That all the race whence Orange came
Made virtue triumph over fate. *Prior.*

The *mournful* fair,

Oft as the rolling years return,
With fragrant wreaths and flowing hair,
Shall visit her distinguished urn. *Id.*

Friends in sable weeds appear,

Grieve for an hour, perhaps, then *mourn* a year;
And bear about the mockery of woe
To midnight dances, and the puppet-show. *Id.*

But, oh! against himself his labour turned;
The more he comforted the more she *mourned*:
Compassion swells our grief; words, soft and kind,
But sooth our weakness, and dissolve the mind. *Young.*

From noise and riot he devoutly kept,
Sighed with the sick, and with the *mourner* wept. *Harte.*

When an emperor dies in China, the whole ex-
pense of the solemnities is defrayed from the royal
coffers. When the great die here, mandarins are
ready enough to order *mourning*; but I do not see
that they are so ready to pay for it. What, order
me to wear *mourning* before they know whether I can
buy it or no! *Goldsmith. Citizen of the World.*

Sir Roger de Coverley, because it happened to be
a cold day in which he made his will, ordered his
servants great-coats for *mourning*; so, because I have
been this week plagued with an indigestion, I have
sent you by the carrier a fine old ewe-milk cheese. *Burns*

And see his lordly fellow-worm

The poor petition spur,
Unmindful, though a weeping wife
And helpless offspring *mourn*. *Id.*

Then, anxious to be longer spared,
Man *mourns* his fleeting breath:
All evils then seem light compared
With the approach of death. *Cowper.*

MOURNE, *n. s.* Fr. *morne*. The round end
of a staff; that part of a lance to which the steel
part is fixed, or whence it is taken off.

He carried his lances, which, though strong to
give a lance's blow indeed, yet so were they colored
with hooks near the *mourne*, that they prettily repre-
sented sleeping hooks. *Sidney.*

MOURNING FOR THE DEAD, amongst the ancient
Jews, on the death of their relations or intimate
friends, was expressed by weeping, tearing their
clothes, smiting their breasts, or tearing them
with their nails, pulling or cutting off their
hair and beards, walking barefoot, lying upon
the ground, fasting, or eating upon the ground.
They kept themselves closely shut up in their
houses, covered their faces, and abstained from
all work, even reading the law, and saying their
usual prayers. They neither dressed themselves,
nor made their beds, nor cut their nails, nor

went into the bath, nor saluted any body. The time of mourning was generally seven days; more or less, according to circumstances, but never exceeding thirty days. The different periods of the time of mourning required different degrees of grief and different tokens of it. The Greeks, on the death of their friends, showed their sorrow by secluding themselves from all gaiety, entertainments, games, public solemnities, wine, and music. They sat in gloomy and solitary places, stripped themselves of all external ornaments, put on a coarse black stuff by way of mourning, tore their hair, shaved their heads, rolled themselves in the dust and mire, sprinkled ashes on their heads, smote their breasts with their palms, tore their faces, and frequently cried out with a lamentable voice, reiterating the interjection $\epsilon, \epsilon, \epsilon, \epsilon$; hence funeral lamentations were called Ελεγοί ; whence our word elegy. If they appeared in public, during the time of mourning, they had veils over their faces and heads. During the funeral procession, certain persons called εξαρχοί θρηνων marched before, and sung melancholy strains called $\text{ογοφυρμοί, Ιαλεμοί, Λινοί, and Αιδινοί}$. These vocal mourners sung thrice during the procession round the pile and round the grave. Flutes were also used to heighten the solemnity. The ancients had a remarkable way of mourning for soldiers slain in battle. The whole army attended the funeral solemnities, with their arms reversed, it being customary for mourners, in most of their actions, to behave themselves in a manner contrary to what was usual at other times. In those places where it was the fashion to wear long hair mourners were shaved; and, where others shaved, mourners wore long hair. The conjecture of those, therefore, is frivolous, who imagine that the soldiers turned the heads of their shields downwards, lest the gods, whose images were engraved upon them, should be polluted with the sight of a corpse; since not the gods only, but any other figures, were frequently represented on shields; nor did the few only near the corpse, but the whole company held their shields in the same position: not to mention that other arms were also pointed downwards. Potter, *Archæol. Græc. tom. ii.* The tokens of private grief among the Romans were the same as those among the Greeks. Black or dark brown were the colors of the mourning habits worn by the men; they were also common to the women. The mourning of the emperors at first was black. In the time of Augustus, the women wore white veils, and the rest of their dress black. From the time of Domitian they wore nothing but white habits, without any ornaments of gold, jewels, or pearls. The men let their hair and beards grow, and wore no wreaths of flowers on their heads while the days of mourning continued. The longest time of mourning was ten months: this regulation was established by Numa, and included his whole year. For a widow to marry during this time was accounted infamous. Mourning was not used for children who died under three years of age. From this age to ten they mourned as many months as the child was years old. A remarkable victory, or other happy event, occa-

sioned the shortening of the time of mourning. The birth of a child, or the attainment of any remarkable honor in the family, certain feasts in honor of the gods, or the consecration of a temple, had the same effect. After the defeat at Cannæ, the senate decreed that mourning should not be worn for more than thirty days, that the loss might be forgotten as soon as possible. When public magistrates died, or persons of great note, and when any remarkable calamity happened, all public meetings were intermitted, the schools of exercise, baths, shops, temples, and all places of concourse, were shut up, and the whole city put on a face of sorrow; the senators laid aside the laticlave, and the consuls sat in a seat lower than ordinary. This was the custom at Athens also, and was observed upon the death of Socrates, not long after he had been sentenced to death by their judges. Præfixæ, or mourning women (by the Greeks called θρηνων εξαρχοί), went about the streets: this was customary among the Jews, as well as the Greeks and Romans. Jerem. ix. 17.

The modes of mourning in modern times are various in various countries; as well as the colors used for that end. In Europe the ordinary color for mourning is black; in China it is white; in Turkey blue or violet; in Egypt yellow; in Ethiopia brown. White obtained formerly in Castile on the death of their princes. Herrera observes, that the last time it was used was in 1498, at the death of prince John. Each people assign their reasons for the particular color of their mourning: white is supposed to denote purity; yellow, that death is the end of human hopes, in regard that leaves when they fall, and flowers when they fade, become yellow: brown denotes the earth, whither the dead return: black, the privation of life, as being the privation of light; blue expresses the happiness which it is hoped the deceased does enjoy; and purple or violet, sorrow on the one side, and hope on the other, as being a mixture of black and blue.

MOURZOUK, a city of Central Africa, the capital of Fezzan. It is one of the greatest seats of the inland commerce of the desert: and the rendezvous of the intercourse between its northern and eastern regions. This trade is carried on by caravans, the frequent arrival of which, between October and February, render Mourzouk a scene of great business. From Egypt, and Tripoli, Bournou and Cassina, there arrives an annual caravan. That of Cassina is accompanied by a number of merchants, who penetrate across the Niger, often even to Ashantee. The arrival of a caravan produces a species of jubilee: placed in a chair of state, the sultan receives it without the walls; and each traveller, in passing, kisses his hand. The duties levied on the caravan forming a large part of the revenue of the sovereign. The wall of the city appears to have been anciently built of stone, and it retains the appellation of a Christian town; but presents to the eye a grotesque medley of vast ruins of ancient buildings, and humble cottages of earth and sand. A small river passes it, and it is well supplied with spring water. Long. 15° 35' E., lat. 27° 28' N.

MOUSE, *n. s. & v. n.* } Sax. *mur*; Teut. *maus*;
 MOUSE'EAR, } Belg. *muys*; Swed. and
 MOUSE'HUNT, } Lat. *mus*; Gr. $\mu\upsilon\varsigma$ ($\mu\upsilon\omega$,
 MOUSE'HOLE, } to conceal). The oriental
 MOUS'ER, } languages also have Pers.
 MOUSE'TAIL, } *mush*; Sans. *mushi*, *moo-*
 MOUSE'TRAP, } *sa*.—Thomson. A small
 quadruped, of which there are numerous species.
 See MUS. To mouse is to catch mice: mouse-
 ear and mouse-tail are plants: mouse-hunt and
 mouser both mean one that catches mice: mouse-
 hole, the hole made by this little animal; hence
 any small hole: mouse-trap, the trap or snare by
 which mice are taken.

The eagle England being in prey,
 To her unguarded nest the weazel Scot
 Comes sneaking, and so sucks her princely eggs;
 Playing the *mouse* in absence of the cat.

Shakspeare.

A falcon towering, in his pride of place,
 Was by a *mouseing* owl hawked at and killed. *Id.*

You have been a *mouse-hunt* in your time,
 But I will watch you. *Id. Romeo and Juliet.*

Many analogical motions in animals, I have reason
 to conclude, in their principle are not simply mechan-
 ical, although a *mouse-trap*, or Architas dove, moved
 mechanically. *Hale.*

He can creep in at a *mouse-hole*, but he soon grows
 too big ever to get out again. *Stillingfleet.*

Where *mice* and rats devoured poetick bread,
 And with heroic verse luxuriously were fed.

Dryden.

He puts the prophets in a *mouse-hole*: the last man
 ever speaks the best reason.

Dryden and Lee's Ædipus.

A whole assembly of *mouseing* saints, under the
 mask of zeal and good nature, lay many kingdoms in
 blood. *L'Estrange.*

Puss, a madam, will be a *mouser* still. *Id.*
 Madam's own hand the *mouse-trap* baited.

Prior.

This structure of hair I have observed in the hair
 of cats, rats, and *mice*. *Derham's Physico-Theology.*

When you have fowl in the larder, leave the door
 open, in pity to the cat, if she be a good *mouser*.

Swift.

A poet's cat, sedate and grave
 As poet well could wish to have,
 Was much addicted to enquire
 For nooks to which she might retire,
 And where, secure as *mouse* in chink,
 She might repose, or sit and think. *Cowper.*

MOUSE, in naval affairs, is the name of a
 sort of knob, usually in the shape of a pear,
 wrought on the outside of a rope, by means
 of spun yarn, parsling, &c., and used to confine
 some other securely to the former, and prevent
 it from sliding along its surface. These mouses
 are particularly used on the stays of the lower
 mast, to prevent the eye from slipping up to the
 mast. There is also a smaller one round messen-
 gers, formed by intertwisting a small rope round
 the strands.

MOUSUL, or MOSUL. See MOSUL.

MOUSQUETAIRES, under the old French
 regime, were a body of horse soldiers originally
 raised by Louis XIII. in 1622 out of the cara-
 bineers. This corps consisted of two companies
 selected from the young men of noble extraction,
 each of 244 officers and privates. The horses of

the first company, or mousquetaires gris, were
 white or dapple-gray; of the second, or mous-
 quetaires noirs, black. The arms were, instead
 of the musket, a carbine, two pistols in the
 saddle-bow, and a sword, calculated for infantry
 and cavalry duty. The standard of the first
 company was a bomb falling upon a besieged
 town, with the motto, Quo ruit ad lethum: that
 of the second company was a bunch of arrows,
 with these words underneath, Alterius Jovis
 altera tela. The mousquetaires never served on
 horseback except when the king travelled. Several
 princes, and almost all the general officers and
 marshals of France, were indebted to this estab-
 lishment for the first elements of military science.
 The corps was indeed considered as a military
 school for the French nobility. The English
 Roman Catholic noblemen who wished to enter
 the mousquetaires were obliged to prove certain
 degrees of nobility before they were admitted;
 but this was not the case in the Irish brigade.

MOUTH, *n. s., v. n. & v. a.* } Sax. *mūð*; Gr.
 MOUTHED', *adj.* } $\mu\upsilon\theta\omicron\varsigma$, speech.—

MOUTH-FRIEND, *n. s.* } Minshew; MæS.
 MOUTH-HONOR, } Goth. *munth*;
 MOUTH'LESS, *adj.* } Gothic *mun*,

month; Swed. *mun*; Teut. and Belg. *mund, mond*;
 Scot. *mou*; Fr. *moue*. The central aperture of
 the head; hence any instrument of speaking, or
 the utterance of sound; any opening or entrance;
 and, in familiar language, a speaker, or principal
 orator; cry or voice; distortion of the mouth:
 to be 'down in the mouth,' is to be dejected,
 'chop-fallen.' To mouth is to vociferate; boast,
 speak big or with a loud voice; speak affectedly;
 to chew; eat; seize or force with the mouth:
 mouthed is furnished with a mouth; and this
 adjective is used expressively in composition; as
 in foul-mouthed; mealy-mouthed (or bashful);
 hard-mouthed, &c. A mouth-friend is one dis-
 tinguished for ' blessing his friends' only ' with a
 loud voice:' a mouthful, what the mouth can
 contain at once; hence any small quantity:
 mouth-honor, hollow, insincere civility or res-
 pect: mouthless, destitute of a mouth or en-
 trance.

The dove came in; and lo, in her *mouth* was an
 olive leaf. *Gen. viii. 11.*

Call the damsel, and enquire at her *mouth*.
Id. xxiv. 57.

Corn carried let such as be poore go and glean,
 And after thy cattel to *mouth* it up clean. *Tusser.*
 He came and lay at the *mouth* of the haven, daring
 them to fight. *Knolles.*

Riotous madness,
 To be entangled with those *mouth-made* vows,
 Which break themselves in swearing. *Shakspeare.*

Either our history shall with full *mouth*
 Speak freely of our acts; or else our grave,
 Like Turkish mute, shall have a tongueless *mouth*,
 Not worshipped with a waxen epitaph. *Id.*

Coward dogs
 Most spend their *mouths* when what they seem to
 threaten
 Runs far before them. *Id. Henry V.*

Nay, an thou'lt *mouth*,
 I'll rant as well as thou. *Id. Hamlet.*
 Persevere, counterfeit sad looks,
 Make *mouths* upon me when I turn my back.

Shakspeare.

Speak the speech as I pronounced it, trippingly on the tongue; but, if you *mouth* it, I had as lieve the town crier had spoke my lines. *Id.*

Death lines his dead chaps with steel,
The swords of soldiers are his teeth, his phangs;
And now he feasts *mouth*ing the flesh of men. *Id.*
He keeps them, like an apple, in the corner of his jaw; first *mouth*ed to be last swallowed. *Id. Hamlet.*

May you a better feast never behold,
You knot of *mouth-friends*: smoke and lukewarm water

Is your perfection. *Shakspeare.*

Honour, love, obedience, troops of friends,
I must not look to have; but, in their stead,
Curses not loud but deep, *mouth honour*, breath. *Id.*

Set a candle lighted in the bottom of a bason of water, and turn the *mouth* of a glass over the candle, and it will make the water rise.

Bacon's Natural History.

In regard the cub comes forth involved in the chorian, a thick membrane obscuring the formation, and which the dam doth after tear asunder; the beholder at first sight imputes the ensuing form to the *mouth*-ing of the dam. *Browne.*

The boar

Deals glancing wounds; the fearful dogs divide,
All spend their *mouth* aloft, but not abide. *Dryden.*

When Progne's or Thyestes' feast they write,
And for the *mouth*ing actors verse indite;
Thou neither like a bellows swellest thy face,
Nor can'st thou strain thy throat. *Id. Persius.*
Lucilius never feared the times;

Mutius and Lupus both by name he brought,
He *mouth*ed them, and betwixt his grinders caught. *Dryden.*

You to your own Aquinum shall repair,
To take a *mouthful* of sweet country air. *Id.*

Every body's *mouth* will be full on it for the first four days, and in four more the story will talk itself asleep. *L'Strange.*

But, upon bringing the net ashore, it proved to be only one great stone, and a few little fishes; upon this disappointment they were *down in the mouth*. *Id.*

A goat going out for a *mouthful* of fresh grass, charged her kid not to open the door till she came back. *Id.*

There can be no reason given, why a visage somewhat longer, or a wider *mouth*, could not have consisted with a soul. *Locke.*

Having frequently in our *mouths* the name eternity, we think we have a positive idea of it. *Id.*

There is a certain sentence got into every man's *mouth*, that God accepts the will for the deed. *South's Sermons.*

The *mouth* is low and narrow; but, after having entered pretty far in, the grotto opens itself in an oval figure. *Addison.*

Every coffee-house has some particular statesman belonging to it, who is the *mouth* of the street where he lives. *Id.*

You don't now thunder in the capitol,

With all the *mouths* of Rome to second thee. *Id.*

Why they should keep running asses at Coleshill, or how making *mouths* turns to account in Warwickshire more than any other parts of England, I cannot comprehend. *Id.*

I'll bellow out for Rome, and for my country,
And *mouth* at Cæsar till I shake the senate. *Id.*

The navigation of the Arabic gulph being more dangerous toward the bottom than the *mouth*, Ptolemy built Berenice at the entry of the gulph. *Id. on Coins.*

One tragick sentence if I dare deride,
Which Betterton's grave action dignified,
Or well *mouth*ed Booth with emphasis proclaims. *Pope.*

A dissolution of all bonds ensued;
The curbs invented for the mulish *mouth*
Of head-strong youth were broken; bars and bolts
Grew rusty by disuse. *Cowper.*

'Tis sweet to hear the watch-dog's bark,
Bay deep-*mouth*ed welcome as we draw near home;
'Tis sweet to know there is an eye will mark
Our coming, and look brighter when we come. *Byron.*

MOU**TH**, in anatomy, a part of the face, consisting of the lips, the gums, the insides of the cheeks, the palate, the salival glands, the os hyoides, the uvula, and the tonsils. See ANATOMY. The *mouth* in the several species of animals is nicely adapted to the several uses of speech, the gathering and receiving of food, the catching of prey, &c. In some creatures it is wide and large, in others little and narrow; in some it is formed with a deep incisure into the head, for the better catching and holding of prey, and more easy comminution of hard, large, and troublesome food; and in others with a shorter incisure, for the gathering and holding of herbaceous food. In birds it is neatly shaped for piercing the air; hard and horny, to supply the want of teeth; hooked, in the rapacious kind, to catch and hold their prey; long and slender in those that have their food to grope for in moorish places; and broad and long in those that search for it in the mud. Nor is the *mouth* less remarkable in insects; in some it is forcipated, to catch, hold, and tear the prey; in others aculeated, to pierce and wound animals, and suck their blood; in others strongly rigid, with jaws and teeth, to gnaw and scrape out their food, carry burdens, perforate the earth, nay the hardest wood, and even stones themselves, for houses and nests for their young.

MOUVANS (Paul Richard), surnamed the brave, a Protestant officer, born at Castellane in Provence, who made a considerable figure in the civil wars of France, during the sixteenth century. His brother, who was likewise a Protestant, having been killed in a popular tumult excited by the Romish priests at Draguignan, he took up arms to avenge his death; and, having assembled 2000 men, committed great devastations in Provence. Being pursued by count Tende, at the head of 6000 men, he took post in a convent strongly fortified by nature, resolved to defend himself to the last extremity. The count proposed an interview, to which Mouvans agreed, on condition that his brother's murderers should be punished, and that those who had taken up arms with him should not be molested. These terms being accepted, he dismissed his troops, reserving only a guard of fifty men. The parliament of Aix had received orders from the court to punish him capitally for being concerned in the conspiracy of Amboise. Baron de la Garde made an attempt to apprehend him; but he was repulsed with considerable loss. Mouvans at length retired to Geneva, where he lived for some time in tranquillity, nobly rejecting the splendid offers made him by the duke of Guise if he would join the Catholic party. He

returned to France at the recommencement of the troubles, after the massacre of Vassy in 1562, and continued to distinguish himself in the Protestant armies. His conduct at Sisteron, where he commanded together with captain Senas, when that city was besieged by the count de Sommerive, was particularly admired. After sustaining an assault of seven hours, in which the besiegers were repulsed with considerable loss, he left the city during the night with his troops, and those of the inhabitants who chose to accompany him. The number of the inhabitants amounted to 4000 men, women, and children. Musketeers were placed in the front and rear, while the defenceless and unarmed occupied the centre. They were often obliged to go out of the way, and to cross steep and rugged mountains, to avoid the ambuscades laid for them on the road. They stopped some days in the valleys of Angrone and Pragas, where they were cordially received and supplied with provisions by the Vaudois. After a march of twenty-one days, under the greatest fatigue and famine, they at length arrived at Grenoble. Baron des Adrets sent them under an escort to Lyons; where they remained till the treaty of pacification. In 1568 Mouvans was defeated at Mesignai in Perigord, and lost his life in the engagement. Upon this occasion he commanded, together with Peter Gourde, the advanced guard of the Protestant army.

MOUZANGAIE, a large town on the western coast of Madagascar, belonging to the queen of the Seclaves. The trade carried on by Arab settlers is very considerable. Two vessels under the English flag arrive annually from Surat, with stuffs and silks, which are exchanged for slaves, gold, tortoise shell, &c.

MOW, *v. a., v. n. & n. s.* } Sax. *mapan*, map;
MOWBURN, *v. n.* } Goth. *matha*, mei-
MOWER, *n. s.* } *da*; Belg. *maeyen*;
 Teut. *mehen*; Isl. *maa*; Gr. *amaw*. To cut down, as with a scythe; to cut down with haste or violence; to gather in harvest; put in a mow, rick, or heap: to mowburn is to heat or take fire in the mow: a mower, he who mows or cuts down.

It was the latter growth after the king's *mowings*.
Amos.

Learn skillfullie how
 Each grain for to laie by itself on a mow.
Tusser.
 Set *mowers* a mowing, where meadow is grown.
Id.

Of all the seed that in my youth was sowne,
 Was nought but braks and brambles to be mown.
Spenser.

The care you have
 To mow down thorns that would annoy our foot,
 Is worthy praise.
Shakspeare. Henry VI.
 What valiant foemen, like to autumn's corn,
 Have we mowed down.
Id.

The strawy Greeks, ripe for his edge,
 Fall down before him like the *mower's* swath.
Shakspeare.

All else cut off
 As Tarquin did the poppy-heads, or *mowers*
 A field of thistles.
Ben Jonson's Catiline.
 Whatever
 The scythe of time *mows* down, devour unspared.
Milton.

Gold, though the heaviest metal, hither swims:
 Ours is the harvest where the Indians *mow*,
 We plough the deep, and reap what others sow.

Waller.

Mowers and reapers, who spend the most part of the hot Summer days exposed to the sun, have the skin of their hands of a darker colour than before.

Boyle.

Thou and I, marching before our troops,
 May taste fate to 'em; *mow* 'em out a passage,
 Begin the noble harvest of the field.
Dryden
 Stands o'er the prostrate wretch, and as he lay,
 Vain tales inventing, and prepared to pray,
Mows off his head.
Id. Æneid.

Beans when moist give in the mow.

Mortimer.

House it not green, lest it *mowburn*. *Id.*
 Beat, roll and *mow* carpet-walks and cammomile.
Evelyn.

Where'er I gad, I Blouzelind shall view,
 Woods, dairy, barn, and *mows* our passion knew.
Gay.

In simmer when the hay was *mawn*,
 And corn waved green in ilka field,
 While claver blooms white o'er the lea,
 And roses blaw in ilka field.
Burns.

Mow, *n. s. & v. n.* Corrupted from Fr. *moue*, mouth. Wry mouth; & distorted face. This word is still retained in Scotland.

The very objects came together against me un-
 awares, making *mows* at me.

Psalm xxxv. 15. Common Prayer.

Some Smithfield ruffian takes up some new *moving* with the mouth, some wrenching with the shoulder, some fresh, new oath, that will run round in the mouth.
Ascham.

Apes and monkeys,
 'Twixt two such she's, would chatter this way, and
 Contemn with *mows* the other.
Shakspeare.

Those that would make *mows* at him while my father lived, give twenty ducats a piece for his picture in little.
Id.

For every trifle are they set upon me;
 Sometimes like apes that *mow* and chatter at me,
 And after bite me.
Id. Tempest.

Mow is a name given to several towns in Hindostan, the principal of which is in the district of Ferukabad, and called Mow Shemsheereabad. It was formerly inhabited by the Bungush tribe of Afghauns. Long. 79° 18' E., lat. 27° 34' N.

Mow, a town of Hindostan, province of Allahabad, situated on the west bank of the Soorjew River, and celebrated for its manufacture of cotton and shirt cloth. Long. 83° 37' E., lat. 25° 57' N.

MOWEE, one of the Sandwich Islands discovered by captain Cook, is 162 miles in circumference. A low isthmus divides it into circular peninsulas, of which the east is double the size of the west. The mountains in both rise to an exceeding great height, and may be seen at the distance of more than thirty leagues. The north shores, like those of Owyhee, afford no soundings, and the country presents the same appearance of verdure and fertility. Near the west point of the smaller peninsula is a spacious bay, with a sandy beach shaded with cocoa nut-trees. The country behind has a most romantic appearance, the hills rising almost perpendicularly in a great variety of peaked forms; and their steep sides and deep chasms between them are cover

ed with trees. The tops of these hills are entirely bare, and of a reddish-brown color. The number of inhabitants is about 65,000. Long. 204° 4' E., lat., 20° 50' N.

MOWING. See **RURAL ECONOMY.**

MOXA, a celebrated eastern specific for the gout, which is burned on the part affected. It is a soft lanuginous substance, prepared in Japan from the young leaves of a species of artemisia, by beating them together when thoroughly dried, and rubbing them betwixt the hands till only the fine fibres are left. The down on the leaves of mullein, cotton, hemp, &c., will answer as well. A little cone of the moxa is laid upon the part, previously moistened, and set on fire at the top; it burns down with a temperate glowing heat, and produces a dark colored spot, the exulceration of which is promoted by applying a little garlic; the ulcer is left to discharge, or is healed, according to the intention in using the moxa. See **ARTEMISIA.**

MOXOS, an extensive province of Peru, extending on each side of the Mamore, bounded by the government of Matto Grosso on the east, Cuzco and the Peruvian provinces on the west, and Chiquitos and Santa Cruz on the south. It is chiefly inhabited by warlike tribes of Indians, and contains the large oval lake Rogagualo, formed by an arm of the Rio Beni, which rises near La Paz, on the west side of the Andes, in 18° S. lat., and flowing north enters the Ucayale, their united streams afterwards joining the Apurimac. The banks of the Beni have many missionary settlements. This lake empties itself into the Mamore by a channel called De la Exaltacion. From Lake Rogagualo three other rivers take their rise, and flow into the Amazons on the north; viz. the Jutay, the Juruay, and the Puros. The temperature here is moist, and unhealthy, owing to the inundations of the rivers and lakes with which the country is covered, and epidemic fevers are frequent.

MOYLE, *n. s.* Or **MULE**, which see. An animal generated between the horse and the ass.

Ordinary husbandmen should quit breeding of horses, and betake themselves to *moyles*; a beast which will fare hardly, live very long, draw indifferently well, carry great burthens, and hath also a pace swift and easy enough. *Carew.*

'Twould tempt a *moyle* to fury. *May.*

MOYLE (Walter), a learned English writer in the eighteenth century, born in Cornwall in 1672. He was sent to Oxford, and thence removed to the Temple; where he studied the law, and the constitution of the English government. He soon became acquainted with the wits of the day, and joined some of them in translating Lucian. He undertook to furnish versions of four of that author's pieces, and executed them with spirit and accuracy. He was warmly attached to the principles of liberty, and in 1697 appeared as the coadjutor of Mr. Trenchard in writing a pamphlet entitled *An Argument showing that a Standing Army is inconsistent with a Free Government, and absolutely destructive to the Constitution of the English Monarchy.* He also translated Xenophon's *Discourse upon Improving the State of Athens.* He was for some time member of parliament for Saltash, and afterwards retired to his

seat at Bake in Cornwall, and died in 1721. In 1726 his works were printed at London, in 2 vols. 8vo.

MOZART (John Chrysostom Wolfgang Theophilus), the celebrated German musician, was born at Saltzburg in 1756. He was taught music by his father, who was master of the chapel at Saltzburg. When but three years of age, young Mozart, attending to the lessons which his sister was receiving at the harpsichord, became captivated with the music; and when she had left the instrument would place himself at it, find the thirds, sound them with the liveliest joy, and employ whole hours at the exercise. His father, urged by such early and striking indications of genius, immediately began to teach him some little airs; and soon perceived that his pupil improved even beyond the hopes he had formed of him. Half an hour was generally sufficient for his acquiring a minuet or a little song, which, when once learned, he would of himself perform with taste and expression.

At the age of six years he had made such a progress as to be able to compose short pieces for the harpsichord, which his father was obliged to commit to paper for him. From that time nothing made any impression upon him but music; and infantine amusements lost all their attractions unless music had a share in them. He advanced from day to day, not by ordinary and insensible degrees, but with a rapidity which hourly excited new surprise in his parents—the happy witnesses of his progress. In 1762 he went with his father and sister to Munich, where he performed a concerto before the elector, which excited the admiration of the whole court; nor was he less applauded at Vienna, where the emperor called him the little sorcerer. His father gave him lessons only on the harpsichord; but he privately taught himself the violin; and his command of the instrument afforded the elder Mozart the utmost surprise, when he one day at a concert took a second violin, and acquitted himself with great address. His constant success in whatever he attempted produced an unbounded confidence in his own powers; and he had the laudable hardihood to undertake to qualify himself for the first violin, and did not long remain short of the necessary proficiency.

He had an ear so correct, that he felt the most minute discordancy; and such a fondness for study, that it was frequently necessary to take him by force from the instrument. This love of application never diminished. He every day passed a considerable time at his harpsichord, and generally practised till a late hour at night.

His father, returning home one day with a stranger, found little Mozart with a pen in his hand. 'What are you writing?' said he. 'A concerto for the harpsichord,' replied the child. 'Let us see it (rejoined the father); it is a marvellous concerto without doubt.' He then took the paper, and saw nothing at first but a mass of notes mingled with blots of ink by the mal-address of the young composer, who, unskilled in the management of the pen, had dipped it too freely in the ink; and, having blotted and smeared his paper, had endeavoured to make out his ideas with his fingers; but, on a closer examina

tion, his father was lost in wonder; and his eyes delighted and flowing with tears, became rivetted to the notes. 'See (exclaimed he to the stranger) how just and regular it all is! but it is impossible to play it; it is too difficult.' 'It is a concerto (said the child), and must be practised till one can play it.' In 1763 he went with his father to Paris, and thence to London, where he performed before his majesty, and published six sonatas for the harpsichord. In 1766 they returned to Saltzburg, and in 1769 young Mozart went to Italy, where the pope conferred on him the order of the Golden Spur, and the Philo-Harmonic Society of Bologna admitted him a member. At Rome he assisted at the Miserere in the Sixtine chapel; which performance is justly considered as the ne plus ultra of vocal music. He was prohibited from taking a copy of this Miserere, and therefore piqued himself on retaining it in his memory. Having heard it with attention, he went home, made out a MS. score from recollection, returned the next day to the chapel, heard the piece a second time, corrected the rough draught, and produced a transcript, which surprised all Rome. In 1781 he settled at Vienna, where he composed his principal works, and was much honored by the emperor Joseph II.

His first opera at Vienna was *Die Entführung aus dem Serail*, or the Rape of the Seraglio, in 1782, to German words. The second, *Le Nozze di Figaro*, in four acts. The third, the Schauspiel Director, or the Manager at the Play-house, in 1786. *Il Don Giovanni*, in 1787. *La Clemenza di Tito*, a serious opera. *Cori Fantutti*, comic. *Die Zauberflute*, or *Flauto Magico*. *Idomeneo*, a serious opera, &c.

It was not till the year 1782, that he began to compose at Vienna for the national theatre; at first chiefly instrumental music; but, on its being discovered how well he could write for the voice, he was engaged by the nobility and gentry first to compose comic operas, sometimes to German words, and sometimes Italian. His serious operas, we believe, were all originally composed to Italian words. He died in 1791.

After his decease, when Haydn was asked by Broderip, whether Mozart had left any MS. compositions behind him that were worth purchasing, as his widow had offered his unedited papers at a high price to the principal publishers of music throughout Europe; Haydn eagerly said, 'Purchase them by all means. He was truly a great musician. I have been often flattered by my friends with having some genius; but he was much my superior.'

MOZDOK, a town and district of the government of Caucasus, on the left bank of the Terek, built in 1763. It terminates the military line of defence formed along this river. Vines are raised here, and manufactures of leather, brandy, and silk are considerable: some silk-worms also are bred; but the principal commerce is with the mountaineers of Caucasus. Population estimated at 3000 persons chiefly Armenians, Georgians, and baptised Circassians. Eight miles east of Ekaterinograd.

MSTA, a navigable river of Northern European Russia, in the government of Novgorod, runs

into the lake Ilmen, near Lipinski. A canal, dug in the reign of Peter I., joined it to the Tivertza; and a second canal, finished in 1804, connects it with the Volchov.

MSTISLAVL, a town of Russian Lithuania, government of Mohilev, on the Vachra. It has a Jesuit's college, a monastery, six Greek churches, and a synagogue of Jews. It was formerly the capital of a palatinate. Inhabitants 4000. Sixty miles north-east of Mohilev.

MTZENSK, a well-built town of European Russia, in the government of Orel. It has 5600 inhabitants, and the environs are productive in hemp and corn, which give rise to a considerable traffic. Thirty-two miles N. N. E. of Orel.

MUCH, *adj.*, *adv.* & *n. s.* } Sax. mycell, my-
MUCH'WHAT, *adv.* } cle; Goth. *mik*; Scot.
MUCU'EL, *adj.* } mickle; Span. *mucho*;
Teut. *mich*; Swed. *mik*. The Gothic *auk*, *eyk*, says Mr. Thomson, signifying increase, augmentation, to which *ma*, more, may have been prefixed. Great or large in number or quantity; long in time; opposed both to *few* and *little*: as an adverb it means in a great degree; by far; and exaggerates the comparative degree of adjectives; to a certain degree; nearly; often; long; as a substantive, a great number or multitude; a great quantity; more than enough; a comparative or assignable quantity; an extraordinary occurrence or thing: 'much at one' is nearly at one: 'to make much of,' to treat with marked respect or kindness: *muchwhat*, a deservedly obsolete word for nearly: *much* is also used in composition with participles active and passive: when passively, as in 'much loved, much enjoyed,' it seems to be an adverb; when actively, as 'much enduring,' it may be more properly considered as a noun: *michel* is the old mode of writing *much*.

Joye ye in that day, and be ye glad; for lo your mede is *muche* in hevене. *Wiclif. Luk. 6.*

Isaac, thou art *much* mightier than we.

Gen. xxvi. 16.

The waters covered the chariots and horsemen; there remained not so *much* as one. *Exod. xiv. 28.*

They gathered against Moses and Aaron, and said, Ye take too *much* upon you. *Num. xvi. 3.*

Thou shalt carry *much* seed out, and shalt gather but little in; for the locust shall consume it.

Deut. xxiv. 38.

He charged them that they should tell no man; but the more he charged them, so *much* the more a great deal they published it. *Mark vii. 36.*

We have had fathers of our flesh, which corrected us, and we gave them reverence; shall we not *much* rather be in subjection unto the Father of spirits, and live? *Hebrews xii. 9.*

Though he knew his discourse was to entertain him from a more straight parley, yet he durst not but kiss his rod, and gladly make *much* of that entertainment which she allotted unto him. *Sidney.*

He had in arms abroad won *michel* fame,
And filled far lands with glory of his might.

Faerie Queene.

Let us know

If 'twill tie up thy discontented sword,
And carry back to Sicily *much* tall youth,
That else must perish here.

Shakespeare. Antony and Cleopatra.

Thou thinkest it *much* to tread the ooze
Of the salt deep. *Id. Tempest.*

When thou camest first,
Thou stroaked'st, and madest *much* of me; and
would'st give me
Water with berries in't. *Id.*

It was *much* that one that was so great a lover of
peace should be happy in war. *Bacon's Henry VII.*

Full of doubt I stand,
Whether I shall repent me now of sin
By me done or occasioned, or rejoice
Much more, that *much* more good thereof shall spring.
Milton.

There is, said Michael, if thou well observe,
The rule of not too *much*, by temperance taught. *Id.*

Henceforth I fly not death, nor would prolong
Life *much*, beat rather how I may be quit
Fairest and easiest of this cumbrous charge. *Id.*

So spake, so wished, *much*-humbled Eve, but fate
Subscribed not. *Id.*

The motion being conveyed from the brain of man
to the fancy of another, it is there received; and the
same kind of strings being moved, and *muchwhat*
after the same manner as in the first imaginant.

Glanville's Scep sis.
The bigness of her body and bill, as likewise the
form of them, is *muchwhat* as follows. *More.*

It is *much*, if men were from eternity, that they
should not find out the way of writing all that long
duration which had past before that time. *Tillotson.*

All left the world *much* as they found it, ever un-
quiet, subject to changes and revolutions. *Temple.*
Somewhat awed, I shook with holy fear,
Yet not so *much* but that I noted well
Who did the most in song and dance excel. *Dryden.*

To thee thy *much*-afflicted mother flies,
And on thy succour and thy faith relies. *Id.*
Your *much*-loved fleet shall soon
Besiege the petty monarchs of the land. *Id.*
You pine, you languish, love to be alone,
Think *much*, speak little, and in speaking sigh. *Id.*

Nor grudge I thee the *much* the Grecians give,
Nor murmuring take the little I receive. *Id.*

The fate of love is such,
That still it sees too little or too *much*. *Id.*
Then prayers are vain as curses, *much* at one
In a slave's mouth, against a monarch's power. *Id.*

I am well served, to take so *much* pains for one
resolved to make away with himself. *L'Estrange.*

If we will disbelieve every thing, because we can-
not know all things, we shall do *muchwhat* as wisely
as he who would not use his legs because he had no
wings to fly. *Locke.*

The matter of the universe was created before the
flood; and, if any more was created, then there must
be as *much* annihilated to make room for it.

Burnet's Theory.
Who is there of whom we can with any rational
assurance, or perhaps so *much* as likelihood, affirm,
here is a man whose nature is renewed, whose heart
is changed. *South.*

Unless he can prove *caelibatum* a man or a woman,
this Latin will be *muchwhat* the same with a solecism.
Atterbury.

Homer shall last, like Alexander, long,
As *much* recorded, and as often sung. *Granville.*
Sad from my natal hour my days have ran,
A *much* afflicted, *much* enduring man. *Pope.*

You are pressed for the sea-service, and got off
with *much* ado. *Swift's Rules to Servants.*

If his rules of reason be not better than his rules
for health, he is not like to be *much* followed.

Baker on Learning.

MUCIC ACID, in chemistry was formerly
known by the name of saccholactic acid, because
first obtained from sugar of milk; but as all the
gums appear to afford it, and the principal acid
to be obtained from sugar of milk is the oxalic,
chemists in general now distinguish it by the
name of mucic acid.

It was discovered by Scheele. Having pour-
ed twelve ounces of dilute nitric acid on four
ounces of powdered sugar of milk, in a glass re-
tort on a sand-bath, the mixture became gradu-
ally hot and at length effervesced violently, and
continued to do so for a considerable time after
the retort was taken from the fire. It is neces-
sary therefore to use a large retort, and not to
lute the receiver too tight. The effervescence
having nearly subsided, the retort was again
placed in the sand-bath, and the nitric acid dis-
tilled off, till the mass had acquired a yellowish
color. This exhibiting no crystals, eight ounces
more of the same acid were added, and the dis-
tillation repeated, till the yellow color of the
fluid disappeared. As the fluid was inspissated
by cooling, it was redissolved in eight ounces of
water, and filtered. The filtered liquor held
oxalic acid in solution, and seven drachms and
a half of white powder remained on the filter.
This powder was the mucic acid.

If one part of gum be heated gently with
two of nitric acid, till a small quantity of nitrous
gas and of carbonic acid is disengaged, the dis-
solved mass will deposit on cooling the mucic
acid. According to Fourcroy and Vauquelin,
different gums yield from $\frac{1}{100}$ ths to $\frac{2}{100}$ ths of this
acid.

This pulverulent acid is soluble in about sixty
parts of hot water, and by cooling a fourth part
separates in small shining scales, that grow white
in the air. It decomposes the muriate of barytes,
and both the nitrate and muriate of lime. It
acts very little on the metals, but forms with
their oxides salts scarcely soluble. It precipi-
tates the nitrates of silver, lead, and mercury.
With potash it forms a salt soluble in eight parts
of boiling water, and crystallisable by cooling.
That of soda requires but five parts of water, and
is equally crystallisable. Both these salts are still
more soluble when the acid is in excess. That of
ammonia is deprived of its base by heat. The salts
of barytes, lime, and magnesia, are nearly insolu-
ble. This acid has been analysed recently
with much care: it is composed of according to

	Hydrogen.	Carbon.	Oxygen.
Lussac	3·62	+ 33·69	+ 62·69 = 100

According to,

Berzelius	5·105	+ 33·430	+ 61·465 = 100
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From sacclactate of lead, Berzelius has inferred
the prime equivalent of the acid to be 13·1.

MUCID, <i>adj.</i>	} Lat. <i>mucidus</i> ; Fr. <i>mu- cre, mucilage</i> . Slimy; mouldy; sliminess or mouldiness: the first two words are of rare occurrence: mucilage sig- nifies the viscous part of plants; any thing slimy, viscous, or tenacious: the adjective corresponding.
MUCIDNESS, <i>n. s.</i>	
MUCILAGE,	

Dissolution of gum tragacanth, and oil of sweet
almonds, do coningle, the oil remaining on the
top till they be stirred, and make the *mucilage* some-
what more liquid. *Bacon.*

MUCIUS SCAEVOLA (properly *Caius Mucius Cordus*); the subject of a celebrated Roman tale. If we may believe the story, when Porsenna, king of Etruria, had besieged Rome to reinstate Tarquin in his rights, Mucius determined to deliver his country from so dangerous an enemy. He disguised himself in the habit of a Tuscan, and, as he could speak their language fluently, he gained an easy introduction into the camp, and, soon, into the royal tent. Porsenna sat alone with his secretary when Mucius entered. The Roman immediately rushed upon the secretary, and stabbed him to the heart, mistaking him for his royal master. Mucius, unable to escape, was seized. He gave no answers to the inquiries of the courtiers, and only told them that he was a Roman, and to give them a proof of his fortitude, he laid his right hand on an altar of burning coals, sternly looking at the king, and without uttering a groan, boldly told him that three hundred young Romans like himself had conspired against his life, and determined either to destroy him, or to perish in the attempt. This extraordinary confession astonished Porsenna, who made peace with the Romans, and retired from their city. Mucius obtained the surname of *Scavola* (the Left-handed), because he lost the use of his right hand by burning it in the presence of the Etrurian king.

MUCK, *n. s. & v. a.* } Sax. *mœc.* meox;
MUCK'ER, *v. n.* } Gothic *myk*; Danish
MUCK'ERER, *n. s.* } *mœg*; Swedish *mok.*
MUCK'SWEAT, } Perhaps the Gothic
MUCK'WORM, } *eyk*; Swedish *ok* (an
MUCK'Y, *adj.* } *ox*), and *mov*, a heap.

i. e., of dung. See Ox. Dung; filth; any thing low and mean; to manure with dung. Mucker, from muck, means in Chaucer to heap up, and hence, in some other of our old writers, to scramble for, or hoard money. A muckerer is an admirable old word for a miser; a mean, dirty saver of money. A muck-sweat is a profuse perspiration; one that moistens the whole body. Muck-worm, originally a dung-worm, metaphorically, a miser; a curmudgeon. Mucky is nasty; filthy; besmeared with dirt.

Reward of worldly *muck* doth foully blend,
And low abase the high heroic spirit
That joys for crowns. *Faerie Queene.*

The swine may see the pearl, which yet he values
but with the ordinary *muck.* *Glanville's Apology.*

Frontless and satire-proof he scowlers the streets,
And runs an Indian *muck* at all he meets. *Dryden.*

There are, who
Rich foreign mold, on their ill-natured land
Induce laborious, and with fatt'ning *mu k*
Beswear the roots. *Philips.*

Morning insects, that in *muck* begun,
Shine, buzz, and fly-blow in the setting sun. *Pope.*

Worms suit all conditions;
Misers are *muckworms*, silk-worms beaus,
And death-watches physicians.

Swift's Miscellanies.

MUCK, or **RUNNING A MUCK**, a practice that formerly prevailed in Batavia. To run a muck, in the original sense of the word, was to

get intoxicated with opium, and then rush into the street with a drawn weapon, and kill every one that came in the way, till the party himself was either killed or taken prisoner. If the officer took one of these amooks or mohawks (as they have been called by an easy corruption) alive, he received a considerable reward; but such was the fury of their desperation that this seldom happened. See **AMUCK**.

MUCILAGE, in pharmacy, is in general any viscid or glutinous liquor.

MUCK'ENDER, *n. s.* Span. *mocadoero*; low Lat. *muccinium*. A handkerchief.

For thy dull fancy a *muckender* is fit,
To wipe the slabberings of thy snotty wit.

Dorset.

MUCKUNDRA, a town of Hindostan, in Malwah, belonging to the Mahrattas. It is romantically situated in a circular valley, surrounded by steep hills, and accessible only by narrow passes on the north and south. These are well defended by batteries: this being the only pass within many miles, through a long range of mountains, which divide Malwah from Harowty. at Chundkairy, fourteen miles from this place, is held a large fair for horses and cattle. Long. 76° 12' E., lat. 24° 48' N.

MUCKWANY, a mountainous district of Northern Hindostan, situated between 26° and 27° of N. lat., and bounded on the south by Bahar. It is subject to Nepal.

MUCOR, in botany, a genus of the order of fungi, and cryptogamia class of plants. This fungus has vesicular heads supported by foot-stalks. SEED naked and coherent. There are twelve species; the most remarkable are,

1. *M. crustaceus*, the fingered mould, is frequent upon corrupted food of various kinds. It is of a white aqueous color; the stalks single, each supporting at the top four or five lace-like radii, diverging from the same point or centre.

2. *M. glaucus*, the gray cluster-headed mould, is found on rotten apples, melons, and other fruits; also upon decayed wood, and the stalks of wheat. These are of a pellucid gray color; the stalks generally single, supporting a spherical ball, which, when magnified, appears to be compounded of numerous fine, moniliform, lace-like radii.

3. *M. lichenoides*, the little black pin-headed mucor. This species grows in groups near to each other, in chasms of the barks of old trees, and upon old park-pales. The stalks are black, about two lines in height; bearing each a single head, sometimes a double or treble one, of the size of mustard or poppy seeds, of a roundish figure at first, but, when burst, often flattish or truncated, and of a black color. The internal powdered down is black, with a tinge of green.

4. *M. mucedo*, the common gray mould, grows on bread, fruits, plants, and other substances in a putrid state. It grows in clusters; the stalks a quarter of an inch high, pellucid, hollow, and cylindrical; supporting each a single globular head, at first transparent, afterwards dark gray; which bursts with elastic force, and ejects small round seeds discoverable by the microscope.

5. *M. septicus*, the yellow frothy mucus, is found on the leaves of plants, such as ivy and beech, &c.; sometimes upon dry sticks, and frequently upon the tan or bark in hot-houses. It is of no certain size or figure, but of a fine yellow color, and a substance resembling at first cream beat up into froth. In twenty-four hours it acquires a thin filmy coat, becomes dry, and full of a sooty powder adhering to downy threads. The seeds under the microscope appear to be globular. Haller ranks it under a new genus, which he terms *fuligo*; the characters of which are, that the plants contained in it are soft, and like butter at first, but soon change into a black sooty powder.

6. *M. sphærocephalus*, the gray round-headed mucus, growing upon rotten wood, and sometimes upon decayed plants and mosses. The stalks are generally black, about a line in height; bearing each at the top a spherical ball about the size of a pin's head; its coat or rind is covered with a gray powder, and contains within a black or fuscous spongy down. The coat bursts into a ragged irregular margin.

MUCOUS, *adj.* } Latin *mucosus*. Slimy; }
 Mucus, *n. s.* } viscos; tenacious. Mucus }
 is more properly used, according to Quincy, for that which flows from the papillary processes through the os cribriforme into the nostrils; but also used for any slimy liquor or moisture, as that which daubs over and guards the bowels and all the chief passages in the body: it is separated by the mucilaginous glands.

The salamander being cold in the fourth, and moist in the third degree, and having also a *mucous* humidity above and under the skin, may awhile endure the flame. *Broune.*

In the action of chewing, the *mucus* mixeth with the aliment: the *mucus* is an humour different from the spittle, and the great quantity of air which it contains, helps to dissolve the aliment.

About these the nerves and other vessels make a fine web, covered over with a *mucous* substance, to moisten these papillæ pyramidales. *Cheyne.*

Mucus, a mucilaginous liquor secreted by certain glands, and serving to lubricate many of the internal cavities of the body. In its natural state it is generally limpid and colorless; but, from certain causes, will often assume a thick consistence and whitish color like pus.

Mucus is glutinous, thready, and of a salt savor; it reddens paper of turnsole, contains a great deal of water, muriate of potassa and soda, lactate of lime, of soda, and phosphate of lime. According to Fourcroy and Vauquelin, the mucus is the same in all the mucous membranes. On the contrary, Berzelius thinks it variable according to the points from which it is extracted.

The mucus forms a layer of greater or less thickness at the surface of the mucous membranes, and it is renewed with more or less rapidity; the water it contains evaporates, under the name of mucous exhalation; it also protects these membranes against the action of the air, of the aliment, the different glandular fluids, &c.; it is, in fact, to these membranes nearly what the epidermis is to the skin. Independently of this general use, it has others that vary according to the parts of mucous membranes. Thus the mu-

cus of the nose is favorable to the smell, that of the mouth gives facility to the taste, that of the stomach and the intestines assists in the digestion, that of the genital and urinary ducts serves in the generation and the secretion of the urine, &c.

A great part of the mucus is absorbed again by the membranes which secrete it; another part is carried outwards, either alone, as in blowing the nose, or spitting, or mixed with the pulmonary transpiration, or else mixed with the excremental matter, or the urine, &c.

Animal mucus differs from that obtained from the vegetable kingdom, in not being soluble in water, swimming on its surface, nor capable of mixing oil with water, and being soluble in mineral acids, which vegetable mucus is not.

Mucus was considered by Dr. Birtock to be merely a modification of gelatin, but they are perfectly distinct fluids. The subacetate of lead does not affect gelatin; on the other hand tannin, which is a delicate test of gelatin, does not affect mucus. Both these reagents, however, precipitate albumen; but the oxy muriate of mercury, which will indicate the presence of albumen, dissolved in 2000 parts of water, precipitates neither mucus nor gelatin. Thus we have three distinct and delicate tests for these three different principles.

Gum appears to resemble mucus in its properties. One grain of gum-arabic, dissolved in 200 of water, was not affected by oxy muriate of mercury, or by tannin, but was immediately precipitated by subacetate of lead.

MUCRO, *n. s.* } Lat. *micro*. A point.
 MUCRONA'TED, *adj.* } Mucronated is pointed.

The *micro* or point of the heart inclineth unto the left, by this position it giving way into the ascension of the midriff. *Broune's Vulgar Errors.*

Gems are here shot into cubes consisting of six sides, and *mucronated* or terminating in a point.

Woodward.

MUD, *n. s. & v. a.* } Belg. *moder, modder* ;
 MUD'DLY, *adv.* } Goth. and Swed. *mod, modd* ;
 MUD'DINESS, *n. s.* } Teut. *moden* ;
 MUD'DLE, *v. a.* } Lat. *mædeo* ; Gr. *μυ-*
 MUD'DY, *adj. & v. a.* } *δαω*. Slime or dirt de-
 MUD'SUCKER, *n. s.* } posited by water; earth
 MUD'WALL, } and water mixed; to
 MUD'WALLED, *adj.* } cover or bury in mud;

make turbid or filthy. Muddily is turbidly. To muddle, to make foul; turbid; confused; hence to stupify; to make half drunk. Muddy has a similar verbal signification: as an adjective, it follows the senses of mud. Mud-sucker is a kind of sea-fowl. A mud wall, one compounded principally of dried mud.

Who can a pure and crystal current bring,
 From such a *muddy* and polluted spring?

Sandys.

The purest spring is not so free from *mud*,
 As I am clear from treason.

Shakspeare. Henry VI.

I wish
 Myself were *mudded* in that oozy bed,
 Where my son lies. *Id. Tempest.*

A woman moved is like a fountain troubled,
Muddy, ill-seeming, thick, bereft of beauty.

Shakspeare

There's not the smallest orb which thou beholdest,
But in his motion like an angel sings,
Still quiring to the young-eyed cherubim ;
Such harmony is in immortal sounds ;
But, whilst this *muddy* vesture of decay
Doth grossly close us in, we cannot hear it. *Id.*

Do'st think I am so *muddy*, so unsettled,
To appoint myself in this vexation.

Id. Winter's Tale.

The people *muddied*

Thick and unwholesome in their thoughts and whis-
pers. *Shakspeare.*

Water in *mud* doth putrefy, as not able to pre-
serve itself. *Bacon.*

If you choose, for the composition of such oint-
ment, such ingredients as do make the spirits a lit-
tle more gross or *muddy*, thereby the imagination will
fix the better. *Id.*

I shall not stir in the waters which have been al-
ready *muddied* by so many contentious enquiries.

Glanville's Scerpsis.

I strove in vain the' infected blood to cure ;
Streams will run *muddy* where the spring's impure.

Roscommon.

Lucilius writ not only loosely and *muddily*, with
little art, and much less care, but also in a time which
was not yet sufficiently purged from barbarism.

Dryden.

Till, by the fury of the storm full blown,
The *muddy* bottom o'er the clouds is thrown. *Id.*

His passengers

Exposed in *muddy* weeds, upon the miry shore.

Id.

The neighbourhood told him, he did ill to *muddle*
the water and spoil the drink. *L'Étrange.*

The channel was dried up, and the fish left dead
and stinking in the *mud*. *Id.*

Excess, either with an apoplexy, knocks a man on
the head ; or with a fever, like fire in a strong-water-
shop, burns him down to the ground, or if it flames
not out, charks him to a coal ; *muddies* the best wit,
and makes it only to flutter and froth high.

Grew's Cosmologia.

If conscience contract rust or soil, a man may as
well expect to see his face in a *mudwall* as that such
a conscience should give him a true report of his
condition. *South.*

Our next stage brought us to the mouth of the
Tiber ; the season of the year, the *muddiness* of the
stream, with the many green trees hanging over it,
put me in mind of the delightful image that Virgil
has given, when Æneas took the first view of it.

Addison on Italy.

A fountain in a darksome wood,
Nor stained with falling leaves nor rising *mud*.

Addison.

Yet let the goddess smile or frown,
Bread we shall eat, or white or brown ;
And in a cottage, or a court,
Drink fine champagne, or *muddled* port.

Prior.

As folks from *mudcalled* tenement
Bring landlords pepper-corn for rent ;
Present a turkey or a hen,
To those might better spare than ten. *Id.*

The force of the fluid will separate the smallest
particles, so as to leave vacant interstices, which will
be again filled up by particles carried on by the suc-
ceeding fluid, as a bank by the *mud* of the current,
which must be reduced to that figure which gives
least resistance to the current. *Arbutnot.*

I was for five years often drunk, always *muddled* ;
they carried me from tavern to tavern.

Id. History of John Bull.

In all water-fowl, their legs and feet correspond
to that way of life ; and in *mudsuckers*, two of the
toes are somewhat joined, that they may not easily
sink. *Derham.*

Epicurus seems to have had his brains so *muddled*
and confounded, that he scarce ever kept in the
right way, though the main maxim of his philosophy
was to trust to his senses, and follow his nose.

Bentley's Sermons.

The black

A more inferior station seeks,
Leaving the fiery red behind,
And mingles in her *muddy* cheeks.

Swift's Miscellanies.

Turn the bottle upside down ; by this means you
will not lose one drop, and the froth will conceal the
muddiness. *Swift.*

MUDDIE, a fortified town of Hindostan, in
Gujerat, near the morass called the Run. The
soil is good here ; but the country is nearly de-
solate, on account of the robbers who infest it.
Long. 69° 22' E., lat. 22° 5' N.

MUDO (Hernandez), an eminent Spanish
painter under Philip II. He was a disciple of
Titian ; and made such progress, that, though
born deaf and dumb, he was employed by Philip
many years in the palace of the Escorial, where
his performances procured him great honor and
emolument.

MUE, *v. a.* Fr. *muer*. To MOULT, which
see.

MUEZZIN, or MUEDDIN, in Mohammedan
countries ; the crier who announces the hours of
prayer from the minaret. Five prayers are
repeated daily,—one before sunrise, one at
dawn, one at noon, one at four in the afternoon,
and one at sunset. As bells are not in use
among the Mohammedans, the muezzin pro-
claims the time, and reminds the faithful of their
duty. He tells them at day-break that prayer is
better than sleep, and, at dinner-time, that
prayer is better than food.

MUFFIN, *n. s.* Perhaps from muff. A soft
and fine kind of bread.

Muffins, rolls, or bread, if stale, may be made to
taste new, by dipping in cold water, and toasting or
heating in an oven, till the outside be crisp.

Domestic Cookery.

MUFFLE, *v. a. & v. n.* } Fr. *moufle* ; Teut.

MUFFLER, *n. s.* } *muff*, *maule* ; Goth.
mangle, the mouth. To cover or shield from the
weather, probably from covering the mouth ;
hence to conceal, involve, blindfold : as a neuter
verb, to speak inwardly or indistinctly : a muf-
fler is, a cover for the face.

The Lord will take away your tinkling ornaments,
chains, bracelets, and *mufflers*. *Isaiah iii. 19.*

No *muffling* clouds, nor shades infernal, can
From his inquiry hide offending man. *Sandys.*

We've caught the woodcock, and will keep him
muffle. *Shakspeare. All's Well that Ends Well.*

Alas that love, whose view is *muffled* still,
Should without eyes see pathways to his ill.

Shakspeare.

Fortune is painted with a *muffler* before her eyes,
to signify to you that Fortune is blind.

Id. Henry V.

This is one of the strongest examples of a perso-
nation that ever was : although the king's manner
of shewing things by pieces, and by dark lights, hath

so *muffled* it, that it hath left it almost as a mystery.

Bacon's Henry VII.

And what marvel, when that which is acted in the streets, but once, by a few *muffled* penitents, is pretended to be done in cells and closets, as in a set course of discipline, by the most of their strict votaries?

Bp. Hall.

His *muffled* feature speaks him a recluse,
His ruins prove him a religious house.

Cleveland.

Our understandings lie grovelling in this lower region, *muffled* up in mists and darkness. *Glanville.*

The freedom or apertness and vigour of pronouncing, as in the *Bocca Romana*, and giving somewhat more of aspiration; and the closeness and *muffling*, and laziness of speaking, render the sound of speech different.

Holder.

Bright Lucifer

That night his heavenly form obscured with tears;
And since he was forbid to leave the skies,
He *muffled* with a cloud his mournful eyes.

Dryden.

You must be *muffled* up like ladies.

Id.

One *muffled* up in the infallibility of his sect, will not enter into debate with a person that will question any of those things which to him are sacred.

Locke.

Loss of sight is the misery of life, and usually the forerunner of death: when the malefactor comes once to be *muffled*, and the fatal cloth drawn over his eyes, we know that he is not far from his execution.

South.

The face lies *muffled* up within the garment.

Addison.

They were in former ages *muffled* up in darkness and superstition. *Arbuthnot's History of John Bull.*

Mr. Hales has found out the best expedient for preventing immediate suffocation from the tainted air, by breathing through *mufflers*, which imbibe these vapours.

Id. On Air.

New plots and foul conspiracies awake,
And *muffling* up their horrors from the moon,
Havoc and devastation they prepare,
And kingdoms tottering in the field of blood.

Young.

MUFFLE, in chemistry, a vessel much used in some metallurgic operations. In figure it represents an oblong arch or vault, the hinder part of which is closed by a semicircular plane, and the lower part or floor of which is a rectangular plane. It is a little oven, placed horizontally in assay and enamelling furnaces, so that its open side corresponds with the door of the fire-place of the furnace. Under this arched oven small cupels or crucibles are placed; and the substances contained are thus exposed to heat without contact of fuel, smoke, or ashes. The muffle must have holes, that the assayer may look in; and the fore part of it must be always quite open, that the air may act better in conjunction with the fire, and be incessantly renewed; the apertures in the muffle serve also for the regimen of the fire, for the cold air, rushing into the large opening before, cools the bodies in the vessel; but if some coals are put in it, and its aperture before be then shut, with a door fitted to it, the fire will be increased to the highest degree, much more quickly than it can be by the breathing holes of the furnace. See ASSAYING.

MUFFTI, or MUFHTI, the chief of the ecclesiastical order, or primate of the mussulman religion. The authority of the mufti is very great

in the Ottoman empire; for even the sultan himself, if he would preserve any appearance of religion, cannot, without hearing his opinion, put any person to death. In all actions, especially criminal ones, his opinion is required, by giving him a writing in which the case is stated under feigned names; which he subscribes with the words, he shall, or shall not be punished. Such outward honor is paid to the mufti, that the grand signior himself rises up to him, and advances seven steps towards him when he comes into his presence. He alone has the honor of kissing the sultan's left shoulder, whilst the prime vizier kisses only the hem of his garment.

When the grand signior addresses any writing to the mufti, he styles him the esad, the wisest of the wise, instructed in all knowledge, the most excellent of excellents, the spring of virtue, and of true science, with many similar titles. The election of the mufti is solely in the grand signior, who presents him with a vest of rich sables, &c. If convicted of treason, or any great crime, he was formerly put into a mortar kept for that purpose in the Seven Towers at Constantinople, and pounded to death. The mufti is the sovereign interpreter of the Alcoran, and decides all questions of the law: his decisions are called fetfas. He takes place of the bashaws; and his authority is often terrible to the grand signior himself. It is he who girds on the sword to the grand signior's side on his accession to the throne, which ceremony answers to the coronation of our kings; reminding him at the same time of the obligation of defending the religion of the prophet, and of propagating his creed. This eminent place might serve, without doubt, as a counterpoise to the almost absolute and unlimited authority of the sovereign, had not the sultan the power of appointing the mufti, of deposing him, of banishing him, and even of putting him to death. His fetfas are, therefore, forced from him by the wish of preserving his place, and by the fear of death; nevertheless, more than once, religious zeal and probity have induced some to present themselves to the sultan, and to make to him observations and remonstrances; some even, more fanatic and more courageous, braving every danger, have refused to condescend to his wishes. History affords various examples of sultans and viziers killed or deposed through the great influence of the muftis on public opinion; but it likewise presents more muftis who have been victims of their zeal for religion, and of their attachment to the interests of the people. The mufti is much respected by the sultan, and also by the people, who submit blindly to his fetfas.

MUG', *n. s.* } Belg. *mussic*, a measure. Skin-
MUG'HOUSE. } ner says, from Welsh *mugl*,
warm. A drinking cup: mughouse, a low ale-house.

Ah Bowzabee, why didst thou stay so long?
The mugs were large, the drink was wond'rous strong.
Gay.

Our sex has dared the *mughouse* chiefs to meet,
And purchased fame in many a well fought street.
Tichel.

MUG'GY, *adj.* Isl. *mugga*. Dr. Johnson:

thinks corrupted from mucky. Moist; damp; mouldy. A low word.

Cover with *muggy* straw to keep it moist.

Mortimer.

MUGGLETONIANS, a sect which arose in England about 1657; so named from their leader Muggleton, who, with his associate Reeves, set up for prophets, pretending to have an absolute power of saving and condemning whom they pleased; and giving out that they were the two last witnesses of God that should appear before the end of the world.

MU'GIENT, *adj.* Lat. *mugiens*. Bellowing.

That a bittern maketh that *mugient* noise or bumping, by putting its bill into a reed, or by putting the same in water or mud, and after a while retaining the air, but suddenly excluding it again, is not easily made out. *Brown.*

MUGIL, the mullet, in ichthyology, a genus of fishes belonging to the order of abdominales. The lips are membranaceous, the inferior being carinated inwards; they have no teeth; the branchiostege membrane has seven crooked rays; the opercula are smooth and round; and the body is of a whitish color. There are five species, distinguished by the number of rays in the back fin. The mullet is justly ranked by Aristotle among the pisces littorales, or those that prefer the shores to the full sea; it is found in great plenty on several of the sandy coasts of our island, and haunts small bays that have influxes of fresh water. They come in great shoals, and keep rooting in the sand or mud, leaving their traces in form of large round holes. They are very cunning; and, when surrounded with a net, often escape by leaping over it; and, if one does so, the others are sure to follow. This was observed by Oppian; who adds, that if they fail to get over at the first leap, they never attempt a second, but lie without motion as if resigned to their fate. They sometimes swarm on the coasts of the Mediterranean. Near Martigues, in France, great numbers of mullets are taken in weirs made of reeds placed in the shallows. Of the milts of the males, which are there called alletants, and of the roes of females, called botar, is made botargo. The materials are taken out entire, covered with salt for four or five hours, then pressed between two boards or stones, washed, and at last dried in the sun for thirteen or fourteen days. This fish was sometimes made the instrument of a horrible punishment for adulterers. It was used both at Athens and Rome; but it is doubtful whether it was a legal punishment or not.

MUG'WORT, *n. s.* Sax. *mugþýrt*. The *ARTEMISIA*, which see.

The flowers and fruit of the *mugwort* are very like those of the wormwood, but grow erect upon the branches. *Miller.*

Some of the most common simples with us in England are comfrey, bugle, Paul's-betony, and *mugwort*. *Wiseman.*

MUGWORT, in botany. See *ARTEMISIA*. An infusion of this plant in white wine, or a bath made of it, has always been esteemed an emmenagogue, and useful in difficult parturition. The leaves, when young and tender, are used by the Highlanders as a pot herb. The country peo-

ple in Sweden drink a decoction of them for the ague.

MUHL, *KREIS* or *VIERTTEL*, i. e. the circle or quarter of the Muhl, one of the four divisions of Upper Austria, comprising all that country which lies between the Danube and Bohemia, and taking its name from the two rivers Upper and Lower Muhl. It contains 1670 square miles, and 160,000 inhabitants. In the south and east it is productive in corn; but in the north, which is mountainous, the common occupation is the culture and manufacture of flax and hemp. Fruit is abundant in all parts.

MUHL, a river of Austria which, rising on the confines of Bohemia, flows southward, and falls into the Danube. It consists of two streams, the Upper and Lower Muhl, which unite near Haslach.

MUHLENBACH, or Szasz Sebes, a town and district of Transylvania, on the Muhlbach. The chief employment here is brewing for the adjacent country. Inhabitants of the town 4000. Twelve miles south of Alba Julia, and forty-eight west of Hermannstadt. The area of the districts, which grows both corn and wine, is 115 square miles, and contains 15,000 inhabitants.

MUHLHAUSEN, a large old town of Saxony, now belonging to Prussia, but long a free town of the empire, is surrounded by high walls, flanked with a tower, and has four churches, four hospitals, breweries, distilleries, and linen and woollen manufactures of considerable extent. Here are also several dye-works, fulling-mills; leather, starch, and oil, are also made here; and in the environs are copper and iron mines. This was one of the oldest free towns of Germany, and retained its democratic institutions till 1802, when the town and territory were ceded to Prussia, and in 1814 definitively confirmed to that power. Inhabitants 9500. It stands at the confluence of the Unstrutt and Schwemotte. Twenty-nine miles north-west of Erfurt, and forty-three E. S. E. of Cassel.

MULATTO, *n. s.* Span. *mulatto*; Fr. *mulat*, from Lat. *mulus*. One whose parents are a white and a black.

Mulatto is a name given in the Indies to those who are begotten by a Negro man on an Indian woman; or an Indian man on a Negro woman. The word is originally Spanish, *mulata*, formed of *mula*, a mule, as being begotten of two different species. *Dr. A. Rees.*

MUL'BERRY, *n. s.* } Sax. *morberrig*; Lat.

MUL'BERRY-TREE. } *morus*. A well known fruit tree. See *MORUS*.

Morton, archbishop of Canterbury, was content to use *mor* upon a tun; and sometimes a *mulberry tree*, called *morus* in Latin, out of a tun. *C Camden.*

The ripest *mulberry*.

That will not hold the handling.

Shakspeare. Coriolanus.

In the very silk-worm I have observed, that the small and scarce sensible seed, which it casts, comes not to life and disclosure, until the *mulberry*, which is the slowest of all trees, yields her leaf for its necessary preservation. *Sp. Hall*

A body black, round, with small grain like *tuber* cles on the surface; not very unlike a *mulberry*.

Woodward's Fossils

P

The same prolific season gives
 The sustenance by which he lives,
 The mulberry leaf, a simple store,
 That serves him—till he needs no more!

Cowper.

MULBERRY, in botany. See **MORUS**. From the nourishment which this tree affords to the silk-worm, that valuable insect to which we are indebted for the materials of our finest stuffs, the method of cultivating the mulberry tree must be peculiarly interesting wherever its culture can be undertaken with success. In the south of France, and in Italy, vast plantations of these trees are made solely for their leaves to feed these little animals, which amply reward the possessors with the supply of silk which they spin from their bowels. Plantations of mulberry trees have, at different times, been recommended in this country for the same purpose; though nothing has yet been done in that way to any extent, and even the expediency of such an attempt has been doubted by others, upon the ground of its interfering with other branches of rural economies more productive and more congenial to our climate. In the European silk countries, many varieties of mulberry trees are distinguished, arising from difference of climate, soil, method of culture, and other accidental causes. Among the wild mulberries, we meet with some whose leaves are roundish, and resembling those of a rose: hence they have been called the rose-leaved mulberries. Mulberry trees were first cultivated in France, in the reign of Charles IX. It has been found by experience that these trees are not so peculiar to warm countries, but that they may also thrive very well in other countries, and even in Germany, where they afford good nourishment for silk-worms. They grow in all kinds of soil, but thrive best in strong and wet lands; but it is alleged that their leaves then constitute too coarse food, prejudicial to the worms, and unfavorable to the quality of the silk. A good light land is the best soil for raising them. White mulberry trees grow in sandy soils where heath would scarcely vegetate; but their leaves are too dry, and afford not sufficient nourishment for the silk-worms. Mulberry trees may be propagated either from shoots which have taken root, or by seed, layers, and slips. The best seed is commonly procured from Piedmont, Languedoc, &c. M. Duhamel says, that seed should be preferred which is gathered in countries where the cold is sometimes pretty severe; because, in that case, the trees are better able to resist the attacks of the frost. In severe winters, M. Bourgeois observes, the stalks of the young mulberry trees, especially during the first winter, are often destroyed by the frost; but, when they are cut close to the earth, they send forth as beautiful and vigorous stalks as the former. Good seed is large, heavy, and light colored, and produces a great deal of oil when it is pressed, and crackles when thrown on a red hot shovel. In the autumn of the second year, all those trees must be pulled up which have small leaves of a very deep green, rough, and deeply indented, for they would produce no leaves proper for the silk worms. In the third year, when the mulberry tree is about the thickness of the finger, it must be taken up and

put in the nursery. According to Bourgeois mulberries ought to be transplanted in the spring of the second year, which makes them thrive better, and sooner attain their growth. Without this transplantation they would put forth only one root like a pivot, and most of them would be in danger of perishing when taken up to be put where they are intended to remain. Some cultivators say, that all the young trees, whether large or small, straight or crooked, ought to be cut close to the ground in the third year, that they may put forth a greater number of roots. Others never employ this method but with regard to those which are crooked, or in a languishing state. White mulberries may be raised for the food of silk-worms, either in the form of a copse, or planted in a regular order, by letting them grow to their natural size. Ingrafting is one of the surest methods of procuring fine leaves from mulberries. Mulberries ingrafted on wild stocks chosen from a good kind, such as those which are produced from the seed of the Italian mulberry, commonly called the rose mulberry, or of the Spanish mulberry, produce much more beautiful leaves, and of a much better quality for silk-worms, than those which are ingrafted on the common or prickly small-leaved wild stock. Ingrafted mulberries produce a greater number of leaves, and more nourishing for silk-worms than wild mulberries. The latter, however, may exist for two centuries; whereas the extension of leaves produced by ingrafting occasions a premature dissipation of the sap of the tree, and thereby accelerates its decay. In a memoir inserted in a treatise on the culture of white mulberries by M. Pomier, it is recommended to ingraft white mulberries upon black ones; and there is reason to think that by following this plan the trees would exist much longer; for the white mulberry commonly decays first in the root, whereas the black mulberry is not subject to any malady. It is very prejudicial to young mulberry trees to strip them of their leaves, because these are the organs of perspiration, and contribute to nutrition by absorbing the moisture of the atmosphere. Mulberry trees are so plentifully stored with sap, that they renew their leaves sometimes twice or thrice. When the winter is mild, they put forth their leaves very early; but it is always dangerous to accelerate the hatching of the worms in expectation of this; for no leaves can be depended upon till the beginning of May, those produced prior to this period being in danger of being destroyed by the frosts. In Tuscany, especially near Florence, M. Nollet tells us, that though the inhabitants do not cultivate half so many mulberries as the Piedmontese, they rear and feed double the quantity of silk-worms. For this purpose they hatch the worms only at two different seasons. The first worms which are hatched are fed on the first produce of the mulberry trees; and, when these have produced their silk, other worms are hatched, which are nourished on the second crop of the same trees. Mr. Bourgeois says, that several kinds of white mulberries are now cultivated near Bienne in Switzerland, and that the prickly mulberry is the least esteemed of all the white wild mulberries. Its branches are rough with

prickles; its leaves are of a small size and few in number; and the reaping of them is difficult and expensive. The common wild mulberry produces indented leaves, oblong, and very slender; but 't thrives very well when planted in a hedge, and in a favorable exposure. It is also earlier in the spring than the other species. The wild mulberry, which is produced from the rose or Italian ingrafted mulberry, bears a great number of leaves, of a roundish shape and middling size, inclining to a light yellow, and of an excellent quality. Of the white ingrafted mulberry trees, the rose, or Italian ingrafted, which is now the species most cultivated in France, Italy, and Piedmont, produces great abundance of large thick and smooth leaves. The mulberry called Roman leaf is distinguished from every other species by its very large leaves, some of which are often found equal in size to those of a gourd. The Spanish mulberry greatly resembles the wild rose mulberry, except that its leaves are larger and more pointed. It can resist the strongest frosts and the severest winters in cold climates. The leaves of the mulberry, called the small queen, are oblong, moderately large, and exceedingly smooth: this species is of an excellent quality, and much esteemed.

MULBERRY CYDER, a name given by the people of Devonshire, and some other parts of England, to a sort of cyder rendered very palatable by an admixture of mulberry juice in the making; they choose for this purpose the ripest and blackest mulberries, and pressing out their juice, and mixing it with a full-bodied cyder at the time of the grinding and pressing, give just so much of it as adds a perceptible flavor. The color of this liquor resembles that of the brightest red wine, and the flavor of the mulberry never goes off.

MULCT, *n. s. & v. a.* Lat. *mulcta*. A fine; penalty: commonly used of a pecuniary penalty: to fine.

Because this is a great part, and Eusebius hath said nothing, we will, by way of *mulct* or pain, lay it upon him.

Bacon.

Doe you then Argive Hellena, with all her treasure here,
Restore to us, and pay the *mulct*, that by your vows is due.

Chapman.

MULDA, two rivers in the interior of Saxony: the Freyberg Mulda rises near Neustadt, among the Sudetic Mountains, and passes through part of the circle of the Erzgebirge, joining the Schneeberg Mulda near Colditz. The Schneeberg Mulda rises also in the Sudetic chain, to the south of the former, and runs through part of the Vogtland, the circle of Leipsic, and the government of Mersburg, joining the Elbe between Dessau and Zerbst.

MULE, *n. s.* } Fr. *mule*, *mulet*; Lat. and
MULETEER, } Span. *mula*. An animal gene-
MU'lish, *adj.* } rated between an ass and a
mare; a driver of mules: mulish is obstinate;
perverse; of the supposed temper of mules.

MULE, in manufactures; a machine, invented by Crompton, in 1779, for producing finer yarn than was spun by the machines previously in use, and which has now nearly superseded the jenny. For producing threads of the finest

kind, a process is necessary which is called *stretching*, and which is analagous to that which is performed with carded cotton upon a common spinning wheel. In this operation, portions of yarn several yards long are forcibly stretched in the direction of their length, with a view to elongate and reduce those places in the yarn which have a greater diameter and are less twisted than the other parts, so that the size and twist of the thread may become uniform throughout. To effect the process of stretching, the spindles are mounted upon a carriage, which is moved back and forwards across the floor, receding when the threads are to be stretched, and returning when they are to be wound up. The yarn produced by *mule-spinning* is more perfect than any other, and is employed in the fabrication of the finest articles. The sewing-thread spun by mules is a combination of two, four, or six constituent threads or *plies*. Threads have been produced of such fineness, that a pound of cotton has been calculated to reach 167 miles.

MULE, in zoology, is a term applied to every kind of animal produced by a mixture of two different species, but more particularly with regard to the horse and ass. There are two kinds of mules; one from the he-ass and mare, the other from the horse and the she-ass. We call them indifferently mules, but the Romans distinguished them by proper appellations. The first kind are the best and most esteemed; as being larger, stronger, and having least of the ass in their disposition. The largest and stoutest asses, and the fairest and finest mares, are chosen in those countries where these creatures are most used; as in Spain, Italy, and Flanders. But fewer mules are now bred in the Low Countries than formerly. These creatures are stronger, surer footed, go easier, are more cheaply maintained, and last longer than horses. They are commonly of a black, or black brown, with a shining list along the back and across the shoulders, which distinguishes asses. They were formerly much more common in this country than at present; being often brought over in the days of Popery by the Italian prelates. They continued longest in the service of millers; and are yet in use among them in some places, on account of the great loads they are able to carry. As they are capable of being trained for riding, bearing burdens, and for draught, there is no doubt that they might be usefully employed in many different services. It has been asserted, that animals produced by the mixture of two heterogeneous species are incapable of generating, and thus perpetuating the monstrous breed; but this, says count Buffon, is a mistake. Aristotle, says he, tells us, that the mule engenders with the mare, and that the junction produces an animal which the Greeks call *himnos*, or *ginnus*. He likewise remarks, that the she-mule easily conceives, but seldom brings the fetus to perfection. But the most remarkable and well attested instance of this fact is mentioned in a letter read by M. d'Alembert before the Academy of Sciences, which informed them that a she-mule in the island of St. Domingo had brought forth a foal. The fact was attested by persons of the most unquestionable veracity; and other

instances, though not so well authenticated, are adduced by our author. We may, therefore, continues M. Buffon, consider it as an established fact, that the he-mule can generate and the she-mule produce. Like other animals they have a seminal liquor, and all the organs necessary to generation. But mongrel animals are always less fertile, and more tardy than those of a pure species. Besides, mules have never produced in cold climates, seldom in warm regions, and still more seldom in temperate countries. Hence their barrenness, without being absolute, may be regarded as positive; since their productions are so rare, that only a few examples can be collected. The translator of Buffon's works, in a note on the passage above quoted, has given a remarkable and well authenticated instance of the prolific powers of a she-mule in the north of Scotland, belonging to Mr. David Tullo, farmer in Auchtertyre, in the parish of Newtyle, Forfarshire.

MULES, or hybrid plants, among gardeners, are a sort of vegetable monsters, produced by putting the farina fecundans of one species of plant into the pistil or utricule of another. See BOTANY. The carnation and sweet-william being somewhat alike in their parts, particularly their flowers, the farina of the one will impregnate the other, and the seed so enlivened will produce a plant differing from both. This furnishes a hint for altering the properties and taste of any fruit, by impregnating one tree with the farina of another of the same class; e. g. a codlin with a pear-main, which will occasion the codlin so impregnated to last a longer time than usual, and to be of a sharper taste. If the winter fruits be fecundated with the dust of the summer kinds, they will ripen before their usual time. From this accidental coupling of the farina of one with another, it arises that in an orchard where there is variety of apples, even the fruits gathered from the same tree differ in their flavor, and in the season of maturity. It is also from the same accidental coupling that the numberless varieties of fruits and flowers raised every day from seed proceed.

MULHAUSEN, a pretty post town of the department of the Upper Rhine, France, and the chief place of the canton of Altkirch, having a board of trade and manufactures, and 9000 inhabitants. It is agreeably situated in a fertile country, in the midst of an island formed by the river Ill, and the canal that connects the Rhone and the Rhine. It is well built, and embellished with fine edifices, among which may be particularly noticed the town-hall and the reformed church. Before the revolution, Mulhausen was the capital of a little republic in alliance with the Swiss, which consisted of this town and the communes of Ilzac and Modenheim. It was united to France on the 2nd of March, 1798, and is now the principal town of the department for its commerce and manufactures. The manufactures consist of printed silks and linens, which are celebrated for the fastness and brilliancy of their colors, and the beauty of their patterns, surpassing those of India and of England; cloth, hats, gold and silver lace, straw hats, &c. There are also

woollen and cotton spinning factories, dye-houses, brass-foundries, and manufactories of morocco leather. The inhabitants carry on a trade in corn, wine, brandy, grocery, woollen cloth, iron and ironmongery goods. It is twelve miles N. N. E. of Altkirch, and thirty north-west of Bâle.

MULHEIM, a town of the Prussian province of Cleves and Berg, and government of Cleves, on the Ruhr or Roer, which here becomes navigable. It contains 3100 inhabitants, and manufactures of cotton and paper. In the neighbourhood is a coal mine. Fifteen miles N. N. E. of Dusseldorf.

MULHEIM, another town of the Prussian states, in the duchy of Berg, at the influx of the Stronderbach into the Rhine, across which there is a flying bridge here. The place is indebted for its chief prosperity to the Protestants who were driven from Cologne on account of their religion, and until lately the Protestants of Cologne were accustomed to come here for divine service. The manufactures are woollen stuffs, velvet, silk, leather, soap, and tobacco, and carry on an active inland trade. Here likewise are made excellent earthen ovens. Three miles north of Cologne. Inhabitants 3200.

MULIER, in English law, signifies the lawful issue born in wedlock, though begotten before. Some derive the word from the Latin melior, or French meilleur, better; in regard the condition of a son born thus is better than that of an elder brother born before wedlock. Though, according to Glanvil, the lawful issue is rather called mulier than melior, because begotten on mulieres and not on concubinæ; for he calls such issue filios mulieratos; opposing them to bastards. Briton has frere muliere, i. e. the brother begotten of the wife; in opposition to frere bastard. The mulier is preferred to an elder brother born out of matrimony; for instance, if a man has a son by a woman before marriage, which issue is a bastard, and afterwards marries the mother of the bastard, and they have another son, this second son is mulier and lawful, and shall be heir of the father; but the other can be heir to no person. See BASTARD. By the civil law, where a man has issue by a woman, if after that he marries her, the issue is mulier.

MULL, *v. a.* Lat. *mollio, mollitus*. To soften; dispirit; as wine is when burnt and sweetened.

Peace is a very apoplexy, lethargy

Mulled, deaf, sleepy, insensible. *Shakspeare.*

Drnk new cyder mulled, with ginger warm.

Gay.

MULL, anciently called Dreolin, a large island of the Hebrides, included within the county of Argyle, from the main land of which it is separated by a narrow channel, called the Sound of Mull. On the west and south it is washed by numerous bays formed by the Atlantic Ocean, every where interspersed with small islands, of which the celebrated Icolm-kil is the most remarkable. This island measures from east to west, in some places, twenty-five miles, and from north to south about the same, and comprehends three parochial districts; Kilfinichen, Kilninien, and Torosay. Its superficial con-

teuts, however, are by no means equa. to a square of that magnitude, owing to the many indentations of the sea, particularly on its western side, which however form excellent harbours. In this island agriculture is not carried on to any considerable extent, but some of the mountains form excellent sheep-walks, and to this purpose they are accordingly applied. Most other parts of the island, not covered with wood or swampy morasses, are devoted to the feeding of cattle, chiefly, if not entirely, of the black native species, of which great numbers are annually reared and exported; and the sale of which constitutes the principal mode whereby the tenants procure money for the payment of their rents. The number of black cattle may be about 8000, and the sheep about 18,000. The only kinds of corn sown here are oats and barley; the former affording very indifferent crops, and the latter much more luxuriant ones. The oats are generally ground into meal; but the greatest part of the barley is distilled into whiskey. Sea-ware and shell-sand are much used as manure, and are carried to the fields on the backs of horses in baskets. All the implements of husbandry are extremely rude; for, as there are no regular plough or harrow-makers in the island, each farmer constructs his own, after the manner of his forefathers. It is calculated that about 600 tons of kelp are made yearly in Mull, which are sold for £6000. But the price of this commodity is very uncertain, being dependent on a state of peace or war. There is no other manufacture of consequence for export from the island.

Of the villages in Mull, the only one worthy of notice is Tober-Moray, or Moire, standing close to the shore, near the northern extremity of the Sound. This village was built by the British Society for the Encouragement of the Fisheries, in 1783, and might be improved into one of the chief sea-ports on the western coast of Scotland. At present, however, it does not contain above thirty houses built of stone and lime; and perhaps double that number of thatched huts. The inhabitants principally either hold situations in the post-office or custom-house, or are employed in some capacity connected with the herring fisheries. There are two stated ferries across the Sound of Mull, one from Aros to Morven, and the other from Achnacraig to the island of Kerrera, thence to Oban. Upon a bold headland, projecting into the sea, is situate the old castle Duart, or Dowart, formerly the seat of the M'Leans, now in ruins. The climate is humid; a great quantity of rain falls here; and on the whole the island is considered the most boisterous of the Hebrides. Winter is proportionally milder than on the neighbouring mainland; frost is of short continuance, and the whole surface is seldom covered with snow. Several lakes are contained in this island, from which brooks everywhere intersecting it descend. The island is for the most part rugged and mountainous; and Benmore, the highest mountain, is supposed to be elevated 3000 feet above the level of the sea.

The mineralogy of this island is in many respects worthy of attention: a great part of it

lies on a mass of whin-stone; in many places the rocks are basaltic, and often assume a regular columnar form. Near Aros there are some rocks of white lava, a rare mineral. Lime-stone abounds, and some seams of coal have been found in different parts. In one place there is a stratum of coal under basaltic, and in another basaltic incumbent on that mineral. At Balthetrish is the famous ringing-stone; it is of a dull gray color, spotted with stars of black mica, and is so hard that it is impossible, with a common hammer, to break off the smallest bit. When struck with a stone or hammer, it yields a sound like brass or cast-iron. Caverns of stupendous dimensions abound in various parts of the island.

Mull has in ancient times been the scene of some severe conflicts, but, for the most part, of too little general importance to find a place in the page of English or Scottish history. Bloody-bay, according to tradition, is so called from a sea-fight between a M'Donald of the isles, and his son. The father was supported in this contest by the brave Hector Obhar M'Lean, who afterwards died in the field of Flodden, covering his monarch, James IV., from the arrows of the English archiers. In 1588, the Florida, one of Philip's invincible Armada, was blown up by the desperate resolution of a Scotchman, as some assert, in Tober-Moire bay, after the dispersion of the fleet; and in the same bay did the unfortunate earl of Argyle effect his first landing, attended only by a few friends, when he invaded Scotland, with the view of supporting the cause of the duke of Monmouth.

MULLER, *n. s.* Fr. *mouleur*; Teut. *muhler*. A stone held in the hand, with which any powder is ground. It is often improperly called mullet.

The best grinder is the porphyry, white or green marble, with a *muller* or upper stone of the same, cut very even without flaws or holes; you may make a *muller* also of a flat pebble, by grinding it smooth at a grind-stone. *Peucham.*

MULLER is also an instrument used by glass-grinders; being a piece of wood, to one end of which is cemented the glass to be ground, whether convex in a basin, or concave in a sphere or bowl. It is ordinarily about six inches long, turned round; the cement they use is composed of ashes and pitch. See GLASS-MAKING.

MULLER, or REGIOMONTANUS (John), a celebrated astronomer of the fifteenth century, born at Koningshoven, in Franconia, in 1436. He acquired great reputation by publishing an abridgment of Ptolemy's *Almagest*, which had been begun by Purbach. He went to Rome to perfect himself in the Greek language, and to see cardinal Bassarian; but, finding some fault with the Latin Translations of George de Trebizond, that translator's son assassinated him, in a second journey he made to Rome in 1476, where Pope Sixtus IV. had provided for him the archbishopric of Ratisbon, and had sent for him to reform the calendar. Others say that he died of the plague.

MULLER (John), a celebrated engraver, who flourished about 1600, and had been bred under

Henry Goltzius, whose style he closely imitated. His engravings are excellent and very scarce.

MUL'LET, *n. s.* Fr. *mulet*; Lat. *mullus*. Gr. *μῦλλος*. A sea fish.

Of carps and *mullets* why prefer the great,
Yet for small turbots such esteem profess? *Pope*.

MULLET, in ichthyology. See MUGIL.

MULLET, in heraldry (in French *moulette*), the rowel of a spur, consisting of five points only, by which it is distinguished from a star, as in the annexed figure. 'He beareth argent, on a bend cotised, sable, three mullets of the first, Andrews, of Harsfield, in Gloucestershire.'



MULLINGAR, a post & Market town, and manor of Ireland, in West Meath; and the county town. It has a barrack for two troops of horse. A few miles from it are the ruins of a church, and a castle. It is situated on the Feyle. It holds a great wool fair, and is a place of good trade. In 1227 the priory of St. Mary, formerly known by the name of The House of God of Mullingar, was founded here by Ralph de Petyt, bishop of Meath, for regular canons of St. Augustin's order. A Dominican friary was also founded here in 1237 by the family of Nugent; some ruins of which still remain. It has fairs on the 6th of April, 4th and 5th of July, the 29th of August, and 11th of November; and lies thirty-eight miles from Dublin.

MULLOCK, *n. s.* Teut. *muhl*. Rubbish.—*Ainsworth*.

The mullock on an hepe ysweped was,
And on the fiore yeast a canevas,
And all this mullock in a sieve ythrowe,
And sifted, and ypicked many a throwe.

Chaucer. Cant. Tales.

MULLROSE, CANAL OF, or Frederick William's Graben, a fine canal of Prussia, in the province of Brandenburg. It commences at Newbruck, on the Spree, and terminates at the lake of Brieson on the Oder. It is about fourteen miles long, has ten sluices, and forms part of the chain of inland communication which extends from Warsaw to Hamburg. It is consequently of great importance to the trade of Germany.

MULLUS, the surmulet, in ichthyology, a genus of fishes belonging to the order of thoracici. This fish was highly esteemed by the Romans, and bore an exceedingly high price. The capricious epicures of Rome in Horace's days valued it in proportion to its size; not that the larger were more delicious, but that they were more difficult to be obtained. The price given for one in the time of Juvenal and Pliny is a striking evidence of the luxury and extravagance of the age:—

The lavish slave
Six thousand pieces for a mullet gave,
A sesterce for each pound; *Dryden*.

or £48 8s. 9d. But Asinius Celer, a man of consular dignity, gave 8000 nummi, or £64 11s. 8d. for a large mullet; though, according to Horace, a mullus trilibris, or one weighing three pounds, was a great rarity. But Seneca says, that it was not worth a farthing except it died in

the very hand of the guest; that such was the luxury of the times, that there were stews even in the eating-rooms, so that the fish could at once be brought from under the table, and placed on it; and that they put the mullets in transparent vases, that they might be entertained with the various changes of its rich colors while it lay expiring. Apicius first hit upon the method of suffocating them in an exquisite Carthaginian pickle, and afterwards procured a rich sauce from their livers.—This is the man whom Pliny styles *Nepotum omnium altissimus gurgis*. The body of this fish is very thick, and covered with large scales; beneath them the color is a most beautiful rosy red, the changes of which under the thin scales gave that entertainment to the Roman epicures above mentioned. The scales on the back and sides are of a dirty orange; those on the nose a bright yellow; the tail a reddish yellow.

MULLUVIA, a river of Africa, in the Atlas, forming the boundary between Algiers and Morocco. Its course from south to north is about 200 miles; but it is only navigable for small vessels. It falls into the Mediterranean. Long. 2° 6' W., lat. 34° 55' N.

MULTAN'GULAR, *adj.* } Lat. *multus* and
MULTAN'GULARLY, *adv.* } *angulus*. Polygo-
nal; polygonally; with many corners.

Granates are *multangularly* round.

Grew's Cosmologia.

MULTIFA'RIOUS, *adj.* } Lat. *multifarius*.
MULTIFA'RIOUSLY, *adv.* } Having diversity of
MULTIFA'RIOUSNESS, *n. s.* } relations; having
different respects; or great diversity in any way.

His science is not moved by the gusts of fancy and humour which blow up and down the *multifarious* opinionists.

Glanville to Albius.

There is a *multifarious* artifice in the structure of the meanest animal. *More's Divine Dialogues.*

We could not think of a more comprehensive expedient, whereby to assist the frail and torpent memory through so *multifarious* and numerous an employment.

Evelyn's Kalendar.

According to the *multifariousness* of this imitability, so are the possibilities of being. *Norris*.

If only twenty-four parts may be so *multifariously* placed, as to make many millions of millions of different rows: in the supposition of a thousand parts, how immense must that capacity of variation be?

Bentley's Sermons.

Hair, wax, rouge, honey, teeth, you buy,

A *multifarious* store!

A mask at once would all supply,

Nor would it cost you more.

Cowper.

MULTIFIDOUS, *adj.* Lat. *multifidus*. Having many partitions; variously cleft.

These animals are only excluded without sight which are multiparous and *multifidous*, which have many at a litter, and have feet divided into many portions.

Brown.

MULTIFORM, *adj.* Lat. *multiformis*. Having various shapes or forms.

Ye that in quaternon run

Perpetual circle, *multiform*.

Milton.

The best way to convince is proving, by ocular demonstration, the *multiform* and amazing operations of the air-pump and the loadstone.

Watts.

Father of all that is or shall arise!

Father of this immeasurable mass

Of matter *multiform*, or dense or rare,
 Opaque or lurid, rapid or at rest,
 Minute, or passing bound! in each extreme
 Of like amaze and mystery to man. *Young.*

MULTIPAROUS, adj. Latin *multiparus*.
 Bringing many at a birth.

Double formations do often happen to *multiparous* generations, more especially that of serpents, whose conceptions being numerous, and their eggs in chains, they may unite into various shapes, and come out in mixed formations. *Brown.*

Animals feeble and timorous are generally *multi- parous*: or if they bring forth but few at once, as pigeons, they compensate that by their often breed- ing. *Ray on the Creation.*

MULTIPLE, adj.

MULTIPLI'ABLE,

MULTIPLI'ABLENESS, n. s.

MULTIPLICABLE, adj.

MULTIPLICAND', n. s.

MULTIPLICATE, adj.

MULTIPLICATIO'N, n. s.

MULTIPLICATO'R,

MULTIPLICITY, n. s.

MULTIPLIC'IOUS, adj.

MULTIPLI'ER, n. s.

Lat. *multiplēx, multiplicus, multiplicandus, multiplicatio*; French *multipliable, multiplication, multipliciteur, multiplicité, multiplier*. Manifold; quality of containing another number re-

peatedly: *multipliable* is capable of being multiplied: *multiplacand*, the number multiplied: *multiplication*, that by which it is multiplied: *multiplacate* is, consisting of more than one; *manifold*: *multiplication*, the art or rule of multiplying or increasing by addition or further production; a rule of arithmetic; *multiplicity*, numerousness, state of being many: *multiplacious*, an unnecessary synonyme of *multiple* and *multiplacate*: *multiplier*, the person or number by which any thing is multiplied: to *multiply* is to increase numerically whether by addition, accumulation, or production of more of the same kind; to perform the arithmetical rule of multiplication; to grow in number; increase.

He shall not *multiply* horses. *Deut.* xvii. 16.

He clappeth his hands amongst us, and *multiplieth* his words against God. *Job.* xxxiv. 37.

The *multiplying* brood of the ungodly shall not thrive. *Wisd.* iv. 3.

The *multiplying* villainies of nature

Do swarm upon him. *Shakspeare. Macbeth.*

Broils and quarrels are alone the great accumulators and *multipliers* of injuries. *Decay of Piety.*

His birth to our just fear gave no small cause; But his growth now to youth's full flower displaying All virtue, grace, and wisdom, to achieve Things highest, greatest, *multiplies* my fears. *Milton.*

Multiplication hath the *multiplacand*, or number to be multiplied; the *multiplier*, or number given, by which the *multiplacand* is to be multiplied, and the product, or number produced by the other two. *Cocker's Arithmetic.*

From one stock of seven hundred years, *multiplac- ing* still by twenty, we shall find the product to be one thousand three hundred forty seven millions three hundred sixty-eight thousand four hundred and twenty. *Brown's Vulgar Errors.*

Although they had divers stiles for God, yet under many appellations they acknowledged one divinity: rather conceiving thereby the evidence or acts of his power in several ways than a *multiplication* of essence, or real distinctions of unity in any one. *Brown.*

Amphispæna is not an animal of one denomina- tion; for that animal is not one, but *multiplacious*, or many, which hath a duplicity or germination of principal parts. *Id.*

You equal *Donne* in the variety, *multiplicity*, and choice of thoughts. *Dryden's Dedication to Juvenal.*

We see the infinitely fruitful and productive power of this way of sinning; how it can increase and *multiply* beyond all bounds and measures of actual commission. *South's Sermons.*

MULTIPLE, in arithmetic, is a number which contains another number a certain number of times. Thus eighteen is a multiple of six, or of three, or of nine, &c. *Common multiple* of two or more numbers is that which contains those numbers a certain number of times. Thus thirty-six is a common multiple of four and nine, being equal to nine times the first and four times the second. To find the *least common multiple* of several numbers: reduce them all to their prime factors, then the product of the greatest powers of those prime factors is the least common multiple required. Let it be proposed to find the least common multiple of twelve, twenty-five, and thirty-five, or the least number that will divide by each of them without a remainder. Here $12=3 \times 2^2$; $25=5^2$, and $35=5 \times 7$; therefore $3 \times 2^2 + 5^2 + 7=210$, the least common multiple required.

MULTIPLYING GLASS, in optics; one wherein objects appear increased in number. It is otherwise called a *polyhedron*, being ground into several planes that make angles with each other, through which the rays of light, issuing from the same point, undergo different refractions, so as to enter the eye from every surface in a different direction.

MULTIPLICATION, in algebra. See ALGEBRA.

MULTIPLICATION. See ARITHMETIC.

MULTIPOTENT, adj. Lat. *multus* and *potens*. Having manifold power; having power to do many things.

By *Jove* *multipotent*,

Thou should'st not bear from me a Greekish member. *Shakspeare. Troilus and Cressida.*

MULTIPRESENCE, n. s. Lat. *multus* and *presentia*. The power or act of being present at one time in more places than one.

This sleeveless tale of transubstantiation was surely brought into the world, and upon the stage, by that other fable of the *multipresence* of Christ's body. *Hall.*

MULTITUDE, n. s. Fr. *multitude*; Lat.

MULTITUDINOUS, adj. *multitudo*. A collec- tive number; a great number; a crowd; throng; the vulgar: multitudinous, manifold; having the effects or appearance of a multitude.

And a gret *multitude* sude him, for thei sighten the tokenes that he dide on them that weren syke. *Wiclif. Jon.* vi.

Will all great Neptune's ocean wash this blood Clean from my hand? No, this my hand will rather The multitudinous sea incarnardine, Making the green one red. *Shakspeare. Macbeth.*

He turned water into good wine; he unconceivably so improved a few loaves and little fishes as to feed and satisfy *multitudes*, leaving more than there were at first. *Barrow*

It is impossible that any *multitude* can be actually infinite, or so great that there cannot be a greater.

Hale.

He the vast hissing *multitude* admires. *Addison.*

It is a fault in a *multitude* of preachers, that they utterly neglect method in their harangues. *Watts.*

It is equally impossible that what is delivered to a *multitude* of hearers should alike suit all their tastes, as that a single dish, though prepared with ever so much art and exactness, should equally please a great variety of appetites. *Mason.*

This is a *multitude*, though large,

Supported at a trivial charge;

A single doit would overpay

The' expenditure of every day,

And who can grudge so small a grace

To supplants, natives of the place? *Cowper.*

MULTNOMAH RIVER, a considerable river of North America, which falls into the Columbia from the south, about 100 miles from the Pacific Ocean. The Multnomah is 500 yards wide near its mouth. Captain Clarke, who surveyed it, could not find the bottom with a five fathom cord. Its regular current, the depth, and uniformity with which it rolls, prove that its supplies are regular and constant; its course, however, is but imperfectly known. It appears to be the same which the party sent by captain Vancouver under lieutenant Broughton, to explore the shores of the Columbia, call Banning's River; and the stream being divided by an island into two channels, before its junction with the Columbia, Broughton places the western point of junction in long. 237° 41 E., lat. 45° 28' N.

MULTOCULAR, *adj.* Lat. *multus* and *oculus*. Having more eyes than two.

Flies are *multocular*, having as many eyes as there are perforations in their corneæ. *Derham.*

MULTURE, in Scots law, a certain stipulated quantity of meal given as payment to the proprietor or tacksman of a mill for grinding the corn; and all corn ground on farms thirled to the mill is obliged to pay multure, whether the corn be ground at that mill or elsewhere. Multures, thirlages, and services, are relics of ancient barbarism universally complained of, as great bars to improvement, but as yet have been only partially abolished or commuted.

MUM, *interj.*

Belg. *mom*, *mumme*; Dan.

MUMM, *v. a.* } *mumme*; Fr. *momerie*. Hush!

MUMMER, *n. s.* } silence! To mumm is to

MUMMERY. } mask; to frolic disguised;

a mummer, a masker: mummery, frolic in masks; romping; foolery; mockery.

But to his speech he answered nowhit,

But stood still mute, as if he had beene dum,

Ne signe of sence did shew, ne common wit,

As one with griefe and anguise ove-cum,

And unto every thing did aunswere *mum*. *Spenser.*

The thriftless games

With *mumming* and with masking all around.

Hubbard.

Mum then, and no more proceed. *Shakspeare.*

Well said, master *mum!* and gaze your fill. *Id.*

The citizens are *mum*, say not a word. *Id.*

If you chance to be pinched with the cholick, you make faces like *mummers*. *Id. Coriolanus.*

This open day-light doth not shew the masques and *mummers*, and triumphs of the world, half so stately as candle-light. *Bacon's Natural History.*

Here mirth's but *mummery*,
And sorrows only real be. *Wotton.*

Jugglers and dancers, anticks, *mummers*. *Milton.*

Intrust it under solemn vows

Of *mum*, and silence, and the rose.

Hudibras.

I began to smoke that they were a parcel of *mummers*. *Addison.*

Your fathers

Disdained the *mummery* of foreign strollers.

Fenton.

Peeled, patched, and pyebald, linsey-woolsey brothers;

Grave *mummers!*

Pope's Dunciad.

I pity them greatly, but I must be *mum*,

For how could we do without sugar and rum?

Especially sugar, so needful we see?

What, give up our desserts, our coffee and tea!

Cowper.

The temple and its holy rites profaned

By *mummers*, he that dwelt in it disdained;

Uplifted hands, that at convenient times

Could act extortion and the worst of crimes

Washed with a neatness scrupulously nice,

And free from every taint but that of vice.

Id.

MUM, *n. s.* Dan. and Teut. *mumme*; Fr. *mum*; Belg. *min*. Wheat ale.

In Shenibank, upon the river Elbe, is a storehouse for the wheat of which *mum* is made at Brunswick.

Mortimer.

Sedulous and stout

With bowls of fatt'ning *mum*. *Philips.*

The clam'rous crowd is hushed with mugs of *mum*,

Till all tuned equal send a general hum. *Pope.*

MUM is a kind of malt liquor much drunk in Germany, and chiefly brought from Brunswick. The process of brewing *mum*, as recorded in the town-house of that city, is as follows:—Take sixty-three gallons of water that has been boiled till one third part is consumed, and brew it with seven bushels of wheaten malt, one bushel of oatmeal, and one bushel of ground beans. When it is turned, the hogshead must not be filled too full at first; as soon as it begins to work, put into it 3 lbs. of the inner rind of fir, 1 lb. of the tops of fir and beech, three handfuls of *carduus benedictus*, a handful or two of the flower of *rosa solis*: add burnet, betony, marjoram, avens, pennyroyal, and wild thyme, of each a handful and a half; of elder flowers, two handfuls or more; seeds of *cardamum* bruised 30 oz. barberries bruised, 1 oz.; when the liquor has worked a while, put the herbs and seeds into the vessel: and after they are added, let it work over as little as possible; then fill it up; lastly, when it is stopped, put into the hogshead ten new laid eggs unbroken: stop it up close, and use it at two years' end. The English brewers, instead of the inner rind of fir, use *cardamum*, ginger, and *sassafras*; and also add *elecampane*, madder, and red sanders.

MUMBLE, *v. n. & v. a.* } Belg. *mompelen*;

MUMBLER, *n. s.* } or from *mum*. To

MUMBLINGLY, *adv.* } speak inwardly or indistinctly; mutter; grumble: a mumbler is a grumbler or mutterer; a dissatisfied person

As one then in a dream, whose drier brain
Is tossed with troubled sights, and fancies weak,
He *mumbled* soft, but would not all his silence break
Spenser

Some carrytale, some pleasan, some slight zany,
Some *mumble-news*; told our intents before.

Shakspeare.

Here stood he in the dark,
Mumbling of wicked charms; conjuring the moon
To stand 's auspicious mistress. *Id.*

A wrinkled hag, with age grown double,
Picking dry sticks, and *mumbling* to herself.
Otway.

The man, who laughed but once to see an ass
Mumbling to make the gross-grained thistles pass,
Might laugh again to see a jury chaw
The prickles of unpalatable law. *Dryden.*

He with *mumbled* prayers atones the deity.
Id. Juvenal.

The raising of my rabble is an exploit of conce-
quence; and not to be *mumbled* up in silence for all
her pertness. *Dryden.*

Spaniels civilly delight
In *mumbling* of the game they dare not bite.
Pope.

The clown, the child of nature, without guile,
Blest with an infant's ignorance of all
But his own simple pleasures,
—Is balloted, and trembles at the news:
Sheepish he doffs his hat, and *mumbling* swears
A bible oath to be what'er they please,
To do he knows not what. *Cowper.*

MUMMIUS (Lucius), a Roman consul, sent
against the Achæans, whom he conquered A. U. C.
147. He destroyed Corinth, Thebes, and Chal-
cis, by order of the senate, and obtained the sur-
name of Achaicus from his victories. He did
not enrich himself with the spoils of the enemy,
but returned home without any increase of for-
tune. He was so ignorant of the value of the
paintings and works of the most celebrated
artists of Greece, which were found in the plun-
der of Corinth, that he said to those who con-
veyed them to Rome, that if they lost them or
injured them, they should make others in their
stead.

MUMMY, *n. s.* Fr. *momie*; Lat. *mumia*,
derived by Salmasius from *amomum*, by Bochart
from the Arabic *moniya*. A dead body preserved
by the art of embalming; also a sort of wax used
by gardeners.

The silk
Was dyed in *mummy*, which the skillful
Conserved of maidens' hearts.

Shakspeare. Othello.

It is strange how long carcases have continued
uncorrupt, as appeareth in the *mummies* of Egypt,
having lasted some of them three thousand years.

Bacon's Natural History.

Saved by spice, like *mummies*, many a year,
Old bodies of philosophy appear. *Dunciad.*

We have two substances for medicinal use under
the name of *mummy*; one is the dried flesh of human
bodies embalmed with myrrh and spice; the other
is the liquor running from such *mummies* when newly
prepared, or when affected by great heat, or by
damps; this is sometimes of a liquid, sometimes of a
solid form, as it is preserved in vials, or suffered to
dry. *Hill's Materia Medica.*

MUMMY, in antiquity, is a name applied to the
ancient embalmed bodies generally, but more par-
ticularly to those of ancient Egypt. Nor are
human bodies exclusively entitled to this appella-
tion, but it includes also those of the ibis and
crocodile, and other of the animals esteemed
sacred by the ancient Egyptians. The plain of

Saccara or Sakkara, in the environs of the ancient
Memphis, is the place whence the greatest quan-
tity of mummies have been taken, but very
few have been brought away unbroken or entire;
the cause of this is the avarice of the Turks and
Arabians, who will scarcely ever deliver them to
travellers before they have broken them open, to
see for jewels or other valuables they suspect
may be enclosed therein. The outer case of the
mummy is generally of some common wood,
sometimes of oriental cypress or sometimes of
sycamore. At the upper part is generally a mask
drawn on the face, and sometimes under the
chin is a lock of hair in the form of a bunch.
Authors are not decided as to the meaning of
this bunch, some taking it for a beard, and
others for the leaf of the plant perseæ, which is
consecrated to Isis. In the female mummies,
and in general in the female figures of Egyptian
workmanship, this mark is not to be found,
which gives some weight to the opinion of those
who take it for a beard. On the coverings of
their coffins are also found the representation of
a face, from which some have supposed them to
be portraits of the deceased; but they have in
general such a perfect resemblance one to the
other that they cannot long be conceived to be
any thing else than ornamental. Some have
conjectured, and with much appearance of
truth, that the figure of Osiris was represented
on the mummies of men, and Isis on those of
females. On the examination of a mummy that
was in the possession of the university of Got-
tingen it was remarked that a face was painted
on the bands that enveloped the body, and it
had under the soles of its feet several folds of
linen. In some mummies the nails of the feet
and hands have been found to be yellow. In
the interior of many have been found small
images, amulets, beads, nilometers, &c., many
of which, taken from mummies, are to be seen
in the eighth room under the head of Egyptian
Antiquities of the British Museum, where are
also two of the finest mummies, and in the best
state of preservation now in Europe; one of
which was with its coffin sent to England by
Edward Wortley Montague, and presented to
the Museum by his present Majesty; and the
other, which was found in one of the catacombs,
at the before-mentioned Sakkara, about four
leagues from Cairo, was sent to England by
colonel William Lethicullier, who, on his death,
bequeathed it to the Museum.

A mummy that was opened by M. Blumen-
bach, had artificial eyes made of cotton cloth
prepared with resin. The Imperial Library at
Paris has a mummy which was formerly in the
church of St. Geneviève, but which is much
broken and otherwise damaged, and the coffin
of one extremely well preserved. It is ornamented
like the others with hieroglyphic paintings,
which are also sometimes found delineated on
the bands of cloth with which the body is envel-
oped. They have also a heap of linen, which
they conjecture to have been taken from a
mummy, on which is represented the ceremony
of embalming. In the same plain of Sakkara
before-mentioned, and in the same catacombs
where the human mummies are found, are also

a great number of the mummies of sacred animals. M. Denon, in his voyage into Upper and Lower Egypt, visited these sepulchres, in one of which he found more than 500 mummies of the Ibis. The pots and vases which contained them, and served for sarcophagi, were made of common red earth, from fourteen to eighteen inches in height: one would almost be inclined to doubt their antiquity, so well are they preserved. In the ninety-ninth plate of the quarto French edition of Denon's Travels are engraved several representations of these mummies. The British Museum has, in the same room with their valuable mummies, many of these vases, the lids of which are severally adorned with a head of Isis, a hawk, a wolf, or a baboon, several fragments of statues; of sistrums, amulets, and a great variety of other monuments of art, which serve to illustrate the religious worship of the ancient Egyptians. The same traveller (Denon) has also published a very curious account (page 281 of the quarto Paris edition of his Travels) of the opening and developing of one or two of these mummies that were given him; to which work we refer for more detailed particulars.

In general these mummies of the Ibis are enveloped with bands of cloth, wrapped and interlaced with much care. The head and feet are hidden under the wings, and the whole compressed into a conical form. All of them are not enclosed in vases or urns; some have been found that are swathed with much care, excepting the head and beak, which are left uncovered; these are but few, and their arrangement is the same as the human mummies, and are placed standing upright.—Chrét-Aug. Langguth has published an engraving of one, that accompanies his dissertation entitled *De Mumiis Avium in Labyrintho apud Saccharum repertis, &c.* Vilebergæ, 1803, 4to. This description tallies exactly with the mummy of an ibis they have at present in the Imperial Library at Paris. This bird, which was much adored and revered in ancient Egypt, is the same which still inhabits those countries. This is ably demonstrated by a French naturalist, in the dissection and anatomy of the mummy of an ancient ibis, and that of a modern one, compared together; both the skeletons are kept in the Museum of Natural History at Paris for the gratification of the curious. The following description is given by M. Belzoni of some mummy pits which he visited in the neighbourhood of Thebes:—'The passage where the bodies are is roughly cut in the rocks, and the falling of the sand from the ceiling of the passage causes it to be nearly filled up. In some places there is not more than a foot left, which you must pass through, creeping like a snail on pointed stones that cut like glass. After getting through these passages, some of them 200 or 300 yards long, you generally find a more commodious place, perhaps high enough to sit. But what a place of rest! surrounded by bodies, by heaps of mummies in all directions, which impressed me with horror. The blackness of the wall, the faint light given by the candles and torches for want of air, the different objects that surrounded me seeming to converse with each other, and the Arabs with the candles or

torches in their hands, naked, and covered with dust, themselves resembling living mummies, formed a scene that cannot be described. After the exertion of entering into such a place, through a passage of 80, 100, 300, or perhaps 600 yards, nearly overcome, I sought a resting-place, I found one, and contrived to sit; but, when my weight bore on the body of an Egyptian, it crushed it like a bandbox. I instantly had recourse to my hands to sustain my weight, but they found no better support, so that I sunk altogether among the broken mummies with a crash of bones, rags, and wooden cases, which raised such a dust as kept me motionless for a quarter of an hour waiting till it subsided again. I could not remove from the place, however, without increasing it, and every step I took I crushed a mummy in some part or other. Once I was conducted through a passage no wider than that of the body, and choked with mummies, and I could not pass without putting my face in contact with some decaying Egyptian; but, as the passage inclined downwards, my own weight helped me on; however, I could not avoid being covered with bones, legs, arms, and heads rolling from above. Thus I proceeded from one cave to another, all full of mummies, piled up in various ways, some standing, some lying, and some on their heads.' There are found in Poland a kind of natural mummies, or human bodies preserved without art. These lie in considerable number in some of the vast caverns in that country. They are dried with the flesh and skin shrunk up almost close to the bones, and are of a blackish color. In the wars which several years ago laid waste that country, it was common for parties of the weaker side to retire into these caves, where their enemies, if they found them out, suffocated them by burning straw, &c., at the mouth of the cavern, and then left the bodies; which, being out of the way of injuries from common accidents, have lain there ever since. Carcases dried by the heat of the sun, and thus preserved from putrefaction, are often found in the sands of Libya. Some imagine that these are the bodies of deceased people buried there on purpose to keep them entire without embalming; others think they are the carcases of travellers who have been overwhelmed by the clouds of sand raised by the hurricanes frequent in those deserts.

MUMP, *v. a.* Belg. *mompelen*. To nibble; bite quick.

Let him not pry nor listen,
Nor frisk about the house
Like a tame *mumping* squirrel with a bell on.

Otway.

MUNCH, *v. a.* Fr. *manger*, from Lat. *mando*. See **MOUNCH**. To chew by great mouthfuls.

Say, sweet love, what thou desirest to eat?
—Truly, a peck of provender; I could *munch* you good dry oats.

Shakspeare. Midsummer Night's Dream.

It is the son of a mare that's broken loose, and *munching* upon the melons.

Dryden's Don Sebastian.

MUND, *n. s.* Sax. *mund*, *mundian*, to defend. Peace; protection; safety.

Mund is peace, from which our lawyers call a breach of the peace, *mundbrech*: so Eadmund is

happy peace; Æthelmund, noble peace; Ælmond, all peace; with which these are much of the same import: Irenæus, Hesychius, Lenis, Pacatus, Sedatus, Tranquillus, &c.
Gibson's Camden.

MUNDA, an ancient city of Hispania Bætica, in Granada, on the declivity of a hill, at the bottom of which runs a river. This city was famous for a victory gained by Cæsar over the sons of Pompey, who had collected an army in Spain, after the defeat of their father at Pharsalia. See ROME. The Pompeys posted their army advantageously on a rising ground, whereof one side was defended by Munda, and the other by a small river and a marsh. Cæsar also drew up his troops with great art, and made as if he intended to fortify himself in that post: which induced young Pompey to advance into the plain, and attack the enemy before they could secure themselves with any works. Pompey's army was most numerous; for it consisted of thirteen legions, 6000 horse, and an incredible number of auxiliaries, among whom were all the forces of Bocchus king of Mauritania, commanded by his two sons, youths of great valor. Cæsar had eighty cohorts, three legions, and a body of 8000 horse. As the enemy drew near, Cæsar seemed very anxious, knowing he was to engage men equal in valor and experience with himself, and commanded by officers who had given many proofs of their bravery. Cneius Pompeius was an able commander; and Labienus, who had revolted, esteemed scarcely inferior. Cæsar, however, desirous to put an end to the civil war, either by his own death or that of his rivals, gave the signal for the battle, and fell upon the enemy with his usual vigor and resolution. At the first onset, which was dreadful, the auxiliaries on both sides fled. Then the legionaries engaged with a fury hardly to be expressed; Cæsar's men being encouraged by the hopes of putting an end to all their labors by this battle, and those of the Pompeys exerting themselves out of despair, expecting no quarter, most of them having been formerly pardoned. Never was victory more obstinately disputed. Cæsar's men, who had been always used to conquer, found themselves so vigorously charged by the enemy's legionaries, that they began to give ground; and, though they did not turn their backs, yet it was plain that shame alone kept them in their posts. All authors agree that Cæsar had never been in so great danger; and he himself, when he came back to his camp, told his friends, that he had often fought for victory, but this was the first time he had ever fought for life. The battle had lasted from the rising to the setting of the sun, with alternate temporary success on each side, but without any considerable advantage on either; when at last a mere accident decided the dispute in favor of the dictator. Bogud, a petty king of Mauritania, had joined Cæsar soon after his arrival in Spain, with some squadrons of Numidian horse; but, in the very beginning of the battle, he had abandoned his post, and retired with his troops to a rising ground near the enemy's camp, where he continued the whole day an idle spectator of the battle in the plain. But in the evening he made an attack upon Pompey's camp with all

his forces. Labienus hastened after him to defend the camp; which Cæsar observing, cried out, Courage, fellow soldiers! the victory at length is ours; Labienus flies! Cæsar's men, believing that Labienus had really fled, charged the wing he commanded so briskly, that, after a most obstinate dispute, they put them to flight. Though the left wing was thus defeated, the right wing, under the elder Pompey, still kept their ground. Pompey, dismounting from his horse, fought on foot, till, most of his legionaries being killed, he was forced to save himself by flight. Part of his troops fled back to their camp, and part took shelter in Munda. The camp was immediately attacked and taken; and Cæsar, without loss of time, drew a line of circumvallation round the city. This victory was gained on the 16th of the kalends of April (our 17th of March), when the liberalia were celebrated at Rome; the very day, Plutarch observes, in which Pompey the Great, four years before, had set out for the war. In this action the Pompeys lost 30,000 men; among whom were Labienus, Attius, Varus, and 3000 Roman knights: seventeen officers were taken, and all the enemy's eagles and ensigns, with Pompey's fasces. On Cæsar's side only 1000 men were killed, and 500 wounded.

MUN'DANE, *adj.* Lat. *mundanus*. Belonging to the world.

The platonical hypothesis of a *mundane* soul will relieve us.
Glantville's Scepis

The atoms which now constitute heaven and earth, being once separate in the *mundane* space, could never without God, by their mechanical affections, have convened into this present frame of things.
Bentley's Sermons.

MUNDESSOR, a large district of Hindostan, in Mulwah, situated principally between 24° and 25° lat. N., and intersected by the Chumbul. It is possessed by several chiefs, tributary to the Mahrattas. The principal towns are Soonel, Bampoor, and Parkundy.

MUNDEN, a town of Hanover, at the confluence of the Werra and the Fulda, whose united streams take here the name of the Weser. It has a Calvinist and two Lutheran churches, an hospital, a school, and a brisk carrying trade, particularly by water. The annual number of barges or lighters arriving by the Weser is about 300; by the Werra and Fulda above 100 each. The value of the linen annually sold is computed at £100,000. This town sends to Bremen corn, dye-stuffs, stone-ware, millstones, potash, timber, &c.; receiving in return colonial produce, and French wines. The manufactures are tobacco, soap, leather, and stone-ware. This place was plundered by count Tilly in 1626, and occupied by the French in the war of 1756, and again in 1805. It is nine miles north-east of Cassel, and fifteen W. S. W. of Göttingen.

MUN'DICK, *n. s.* Welsh *mundig* (*mun*, a mine). A kind of marcasite or semimetal abundant in tin mines.

When any metals are in considerable quantity, these bodies lose the name of marcasites, and are called ores: in Cornwall and the West they call them *mundick*.
Woodward.

Besides stones, all the sorts of *mundick* are naturally figured.
Green's Cosmologia.

MUNDIFICATION, *n. s.* } Lat. *mundus*,
MUNDIFICATIVE, *adj.* } and *facio*, to make
MUN'DIFY, *v. a.* } clean. The act
 or art of cleansing, as from dross or accretions:
 to mundify is, to clean; make clean.

Gall is very *mundificative*, and was a proper medicine to clear the eyes of Tobit. *Broune.*

Simple wounds, such as are *mundified* and kept clean, do not need any other hand but that of nature. *Id.*

The ingredients actuate the spirits, absorb the intestinal superfluities, and *mundify* the blood. *Harvey.*

We incarnated with an addition to the fore-mentioned *mundificative*. *Wiseman's Surgery.*

MUNDINUS, a celebrated anatomist of the fourteenth century, born in Florence. He was the first modern anatomist who restored the art, and introduced dissection of human bodies. He wrote a Treatise on Anatomy, in 1315, which was printed at Paris in 1748.

MUNDUN'GUS, *n. s.* Stinking tobacco. A cant word.

Exhale *mundungus* ill perfuming scent. *Philips.*

MUNDUS PATENS, i. e. the open world, in Roman antiquity, a solemnity performed in a small temple, of a round form like the world, dedicated to Dis and the rest of the infernal gods. This temple was opened thrice a year, viz. on the 24th August, 4th October, and 7th November. During these days the Romans believed hell was open; on these days, therefore, they never offered battle, listed soldiers, put to sea, or married.

MUN'GREL, *n. s.* & *adj.* Also written **MÖNGREL**, which see. Any thing of mixed breed: base-born; degenerate.

Mastiff, greyhound, *mungr* grim,

Hound or spaniel, brache or hym,

Or bob-tail tike, or trundle tail. *Shakspeare.*

Thou art the composition of a knave, beggar, coward, pander, and the son and heir of a *mungr*el bitch. *Id.*

My people are grown half wild, they would not precipitate themselves else into such a mixt *mungr*el war. *Hewel.*

A foreign son is sought and a mixed *mungr*el brood. *Dryden.*

*Mungr*el curs bawl, snarl and snap, where the fox flies before them, and clap their tails between the legs when an adversary makes head against them. *L'Estrange.*

MUNICH, the capital of the kingdom of Bavaria, and now an archiepiscopal see, is situated on the west bank of the Iser, in a plain, and is surrounded by a rampart. At least three-fourths of the buildings are within this circuit; the remainder constitute the suburbs. The streets are in general ill-paved, but broad and straight; the houses high, and of good appearance; and the public edifices are numerous and respectable. It is divided into four quarters, by two streets, which cross in the principal square, which is surrounded by arcades. The royal palace is a large plain edifice, magnificent in its interior. The kaiser-saal, or imperial hall, is one of the first in Germany; the stair-case leading to it is of marble, and reckoned the finest out of Italy. The treasury contains a noble collection of diamonds, rubies, and other precious stones: the

royal chapel has also very costly deposits, and the cabinet is remarkable for its beautiful miniatures. The old electoral palace, and the one inhabited by Eugene Beauharnois, son-in-law of the king of Bavaria, are also fine buildings. We may next notice the landhaus or state-house, the council-house, the arsenal, and the new opera. The Notre Dame church contains thirty altars and a monument of the emperor Louis IV.; that of the Theatins, was built on the model of the Vatican; the church belonging formerly to the Jesuits; and the churches of the Augustines, the knights of Malta and St. Peter, are also worth remark. The college occupied by the Jesuits before their expulsion was one of their richest establishments in Europe, and its treasury contained a large collection of philosophical instruments. The total number of churches is twenty-two. The other buildings that deserve notice are the Maximilian palace, the barracks, hospital, workhouse, and the new mint.

Although Bavaria in general is an illiterate and backward country, Munich has many scientific and literary establishments. The national library has been enriched of late years by the addition of collections from the monasteries, and contains a very large rather than valuable stock of books. The academy of sciences was erected in 1759, and has an extensive collection of specimens of natural history and models. The history of Bavaria is a great object of its attention. The schools of a higher class are the military academy, lyceum, gymnasium, veterinary and surgical schools, and the seminary for training teachers. Other scientific establishments are the antiquarian observatory, cabinet of medals, picture gallery (which occupies seven rooms), the collection of prints, and the botanical garden. The court theatre is in the palace; and is a miniature of the Odeon at Paris.

On the 1st January 1790 count Rumford procured the arrest of all the beggars in this capital. His establishment for preparing and distributing soup still remains; together with four orphan-houses, and two pawn banks. There are also two hospitals for the sick, Magdalen hospital, house of correction, and lying-in hospital.

The environs of Munich are adorned with gardens, plantations, and a variety of public places. The court garden is behind the palace, and is called, we understand, the English garden. The Iser flows through it, and has here a neat bridge which leads to the extensive shrubbery. A mile from hence is a distinct royal seat, with another display of fine gardens. The roads from Munich to Paesing, and the garden at Osterwalde, are extremely pleasant.

The general beverage here is malt liquor. The population does not exceed 50,000, of whom nearly 11,000 live in the suburbs. The trade of Munich is very limited: it is to the court and national establishments, and to the residence of a number of landed proprietors, that the inhabitants chiefly owe their support. The Iser is not navigable, and the roads east and west are but indifferent. The manufactures of Munich, though diversified, are of small extent; they comprise furniture, tapestry, gold, wine, piano-fortes, mathematical and surgical instruments, cards,

pencils, snuff, &c., almost all for consumption. The art of lithography is said to have owed its origin to Munich.

In 1632 this city surrendered to the Swedes under Gustavus Adolphus; in 1704 it fell into the hands of the Austrians after the battle of Blenheim, and shared the vicissitudes of the war of 1741, when the elector laid a claim to the imperial crown. After this period it was unmoles- ted until, in 1796, the French army under Moreau obliged the elector to make a treaty with the republic. In 1800 Moreau again occupied Bavaria, and from that time to 1813 the elector remained in alliance with France. See BAVARIA. 220 miles west of Vienna, and 116 E. S. E. of Stutgard. Long. 11° 35' 15" E., lat. 48° 8' 19" N.

MUNICH (Burchard Christopher), count, a celebrated field-marshal in the Russian service, born at Oldenburg in 1685. He was the favorite of the empress Ann, and was concerned in all the events of her reign. Being appointed general of her armies, he gained great advantages over the Crime Tartars, overcame the Turks, A. D. 1739, in an engagement near Choczim, and took that city with Jassy the capital of Moldavia. He was afterwards prime minister to Ivan VI., but was soon after accused of employing his power to gratify his own ambition and resentment. The empress Elizabeth brought him to trial, and he was condemned to lose his life, A. D. 1742. This sentence was mitigated to banishment into Siberia, whither many of the victims of his power had been exiled. He was recalled by Peter III. A. D. 1762, and declared field-marshal. Upon the death of this prince Catharine II. appointed him director-general of the ports of the Baltic. He died on the 8th October, 1767, aged eighty-four.

MUNICIPAL, *adj.* Fr. *municipal*; Lat. *municipalis, municipium*. Belonging to a corporation.

A counsellor, bred up in the knowledge of the *municipal* and statute laws, may honestly inform a just prince how far his prerogative extends. *Dryden*.

MUNICIPIUM, in Roman antiquity, a corporation, borough, or enfranchised city or town, where the inhabitants enjoyed their own laws and customs, and at the same time were honored with the privileges of Roman citizens; but then this privilege reached no farther than the bare title. Some indeed, by particular merit, obtained the liberty of votes, which occasioned that distinction of *municipium sine suffragio*, and *municipium cum suffragio*. The inhabitants of the *municipium sine suffragio* were called barely Roman; but those of the *municipium cum suffragio* were called *cives Romani*. The proper citizens of Rome were, 1. Registered in the census; 2. Had the right of suffrage and of bearing honors; 3. Were assessed in the poll-tax; 4. Served in the legions; 5. Used the Roman laws and religion; 6. Were Quirites and *populus Romanus*; whereas the *municipes* enjoyed the first three of these privileges, but were denied the last three.

MUNIFICENCE, *n. s.* } Fr. *munificence*;
MUNIFICENT, *adj.* } Lat. *munificentia*,
MUNIFICENTLY, *adv.* } *munificus*. Bounty;

liberality; generosity, the adjective and adverb follow these senses.

Who can recount the number, or set out the value of those instances, wherein God's goodness is expressed towards such as loved him!—of his kind acceptance, and *munificent* recompensing their endeavours to please him? *Barrow*.

A state of poverty obscures all the virtues of liberality and *munificence*. *Addison's Spectator*.

Is he not our most *munificent* benefactor, our wisest counsellor and most potent protector?

Atterbury.
'Twere wild profusion all, and bootless waste,
Power misemployed, *munificence* misplaced,
Had not its author dignified the plan,
And crowned it with the majesty of man. *Cowper*.

MUNIFICENCE, *n. s.* Lat. *munitiones* and *faccere*. Fortification; strength. We find no other writer who uses the word in this sense.

His importune sway,
This land invaded with like violence,
Until that Loecine for his realms defence,
Did head against them make, and strong *munificence*.
Spenser.

MUNIMENT, *n. s.* } Lat. *munimentum*,
MUNITE, *v. a.* } *munio, munitio*. Forti-
MUNITION, *n. s.* } fication; strong-hold;
also support, defence: to munite is an obsolete word for, to fortify or strengthen: munition is synonymous with muniment, and is used also by our older writers for ammunition.

It is a city, strong and well stored with *munition*.
Sandys.

The arm our soldier,
Our steed the leg, the tongue our trumpeter;
With other *muniments* and petty helps
In this our fabrick. *Shakspeare. Coriolanus*.

What penny hath Rome borne,
What men provided, what *munition* sent,
To underprop this action? *Id. King John*.

Heat doth attenuate, and the more gross and tangible parts contract, both to avoid vacuum, and to *munite* themselves against the force of the fire.
Bacon's Natural History.

Men, in the procuring or *munition* of religious unity, must not dissolve the laws of charity and human society. *Bacon*.

The king of Tripolie in every hold
Slut up his men, *munition*, and his treasure.
Fairfax.

It was his treasure and *munition* wherein he prides himself to these men of Babylon; the men of Babylon shall carry away his treasure and *munition*.
Bp. Taylor.

Victors under-pin their acquests *jure belli*, that they might not be lost by the continuation of external forces of standing armies, castles, garrisons, *munitions*. *Hale*.

MUNITION SHIPS are those that have stores on board to supply a fleet of men of war at sea. In an engagement all the *munition* ships and victuallers attending the fleet take their station in the rear of all the rest: they are not to engage in the fight, but to attend to such directions as are sent them by the admiral.

MUNKACS, a town of Hungary, on the *Latorca*, the see of a Greek bishop. It contains 5000 inhabitants, of Magyar and Russian descent, and has Catholic, Greek, and Calvinist churches; stocking manufactures, iron works, and one of the largest saltpetre works in the Austrian dominions. On a rock about a π le

from the town are three decayed forts. This was the strong-hold of the celebrated chief of the seventeenth century Tekeli. Sixty-seven miles east by south of Caschau.

MUN'NION, *n. s.* Goth. *mynd*, the face. The facings of a sash.

The upright posts, that divide the several lights in a window frame, are called *munnions*. *Moxon.*

MUNRO (Donald), an eminent writer of the sixteenth century, contemporary with George Buchanan, and a descendant of the family of Coul. He was first archdeacon of the Isles, afterwards superintendent of Ross, and minister of Kiltearn. He wrote a Description of the Isles, which he gave to Buchanan, who acknowledged it in his History of Scotland.

MUNROE, or Southfield, a post-town of Orange county, New York, fifty miles north of New York. Population 2570. Iron ore is found in this town, and iron is extensively manufactured here.

MUNSTER, a government of Westphalia, in the Prussian states, containing the north-west portion of that province. Its area is 2820 square miles; the population 328,000. It is divided into the ten circles or districts of Munster Proper, Tecklenburg, Wahrendorf, Beckum, Ludinghausen, Koesfeld, Recklinghausen, Borken, Ahaus, and Steinfurt. The soil is not rich in corn; but flax and hemp are well cultivated. Linen is the chief manufacture: many of the lower classes emigrate to Holland in summer, and return in winter to their homes, where they engage themselves in weaving. The chief rivers are the Lippe, which forms the greater part of the southern boundary, and the Ems, which flows to the north-east. A canal of considerable length reaches from Munster to the Vechta. This government consists, for the greater part, of the ancient bishopric of the same name, founded in 802 by Charlemagne. The chapter generally chose the archbishop of Cologne: but, after the death of the last primate, they chose a prince of the house of Austria: on the secularisation of church property in 1802 the duke of Oldenburg had 1000 square miles of this territory given to him, with 60,000 inhabitants. Prussia herself had the capital, with 1485 square miles of territory, and the rest was divided among different princes, subject to Prussia in 1815.

MUNSTER, a city of north-west Germany, the capital of a government of the same name, is situated in a plain stretching on both sides of the river Aa, about six miles from the Ems. It had a citadel, and was, until 1765, surrounded with a double mound and moat, but the water was then drained off, and the mounds laid out in public walks. The citadel was also demolished. The houses of the town are well built and lofty, with painted roofs: those in the main streets have small piazzas, or colonnades. There are eleven churches, of which the most remarkable are the cathedral and St. Lambert's. The former has a remarkable chapel, and several curious and ancient monuments. On the tower of the church of St. Lambert are to be seen the three iron baskets in which were suspended the remains of John of Leyden and his two chief companions. The bishop's palace is neat, and the gardens at-

tached are extensive and well laid out. The university at Munster is suppressed, that of Bonn, established in 1818, being the resort of the youth of this neighbourhood. There are here, however, three gymnasia for earlier education, some establishments for weaving coarse linen, and a traffic in linen, woollen, and wine. But neither the trade nor manufactures are considerable. The French, in 1806, stripped the churches of their plate. This city has been rendered famous, 1. By the peace concluded here in 1648, which put an end to a war of thirty years, occasioned by the persecuting spirit of bigotted papists, who chose rather to plunge their country into all the calamities of war, than allow liberty of conscience to the Protestants. By this peace, however, they consented, much against their inclination, to grant them a toleration. 2. By the disorders and disturbances occasioned here in 1553 by a band of enthusiasts, headed by a tailor called John of Leyden from the place of his birth, who turned out the magistrates, and took possession of the city, where they perpetrated the most horrid villanies and cruelties: see our article ANABAPTISTS. It lies sixty miles N. N. E. of Dusseldorf, and ninety-two W. S. W. of Hanover.

MUNSTER, in Latin *Monomia*, in Irish *Monn*, the most southerly province of Ireland, bounded on the north by Leinster and Connaught, and on the east, west, and south by the ocean. It contains the counties of Cork, Clare, Kerry, Limerick, Tipperary, and Waterford; 740 parishes, sixty-three baronies, and twenty-six boroughs. It is about 135 miles long, and 120 broad. Its ancient name was *Mumhan*; and in latter ages it was divided into *Desmond*, or south Munster; *Ormond*, or east Munster; and *Thomond*, or north Munster. It contains some of the finest harbours in the world, and three great towns and sea-ports, Cork (the capital), Limerick, and Waterford. Its rivers are the Lee, the Suir, the Audlyffe, the Banda, the Leane, and the Cashon. Here is one of the finest coal-fields of Ireland, i. e. for non-flaming or stone coal. It is chiefly under the direction of Mr. Leader of Droonagh (see our article Ireland), and employs between 1000 and 1500 hands. Copper mines, and a slate quarry, are also at work in the county of Cork. See **CORK**. Potteries have been also established in this neighbourhood with considerable success.

MUNSTER (Sebastian), a learned German mathematician and linguist, born at Ingleheim in 1489. He became a Cordelier, but having embraced Luther's sentiments he quitted that order in 1529, and retired to Heidelberg, and afterwards to Basil, where he became professor of Hebrew, and taught with reputation. He was a man of great candor, void of ambition, and so well skilled in geography, mathematics, and the Hebrew language, that he was called the *Esdras* and *Strabo* of Germany. His Latin translation of the Bible is esteemed. He was the first who wrote a Chaldee grammar and lexicon: he also published a Treatise on Cosmography, and several other works. He died of the plague at Basil in 1552, aged sixty-three.

MUNYCHIA, or **MUNYCHIUS PORTUS**, in

ancient geography, a village and port of Athens, nearer to the city, and fortified in the same manner with the Piræus, east of which it lay, between it and the promontory Sunium, at the mouth of the Ilissus. Strabo says it was an eminence in form of a peninsula, at the foot of which stood three harbours, anciently encompassed with a wall, taking within its extent the Piræus and other harbours, full of docks, with the temple of Diana Munychia; taking its name from Munychus, the founder of the temple.

MUNYCHIA, an anniversary solemnly observed at Athens in honor of Diana, on the 16th of the month Munychion. Cakes were offered on the occasion called *αμψιβυρτες*.

MUNYCHION, the tenth month of the Athenian year, containing twenty-nine days, and answering to the latter part of our March and beginning of April. It was so called from the festival munychia, which was observed in this month.

MUONIO, a river of Lapland, which, issuing from a lake among the mountains, in lat. 69° N., flows S. S. E. and south, till it joins the Tornea. By the treaty of 1809 it forms the boundary between Russia and Swedish Lapland. It has a number of rapids, but is navigable for boats throughout a great part of its course.

MURÆNA, the eel, in ichthyology, a genus of fishes, belonging to the order of apodes. The head is smooth; there are ten rays in the membrane of the gills; the eyes are covered with a common skin; and the body is cylindrical and slimy. There are nine species, distinguished by their fins, tails, &c. The most remarkable are these:—

1. *M. anguilla*, the common eel, is very frequent in all our fresh waters, ponds, ditches, and rivers; according to Mr. Pennant it is the most universal of fish; yet is scarce ever found in the Danube, though very common in the lakes and rivers of Upper Austria. In some respects it borders on the reptile tribe. It quits its element, and during night wanders along the meadows, not only in order to change its habitation, but also for the sake of prey, feeding on snails as it passes along. In winter it beds itself deep in the mud, and continues in a state like the serpent kind. It is very impatient of cold, and will eagerly take shelter in a wisp of straw flung into a pond in severe weather, which has sometimes been practised as a method of taking them. Albertus affirms, that he has known eels take shelter in a hay-rick, yet perish through excess of cold. In a river of Cambridgeshire called the Nene there is a variety of small eel, with a less head and narrower mouth than the common kind, found in clusters in the bottom of the river, and called the bed-eel; these are sometimes roused up by the violent floods, and are never found at that time with meat in their stomachs. Eels are extremely voracious, and destructive to the fry of others. No fish lives so long out of water as the eel; it is so extremely tenacious of life, that its parts will move a considerable time after they are flayed and cut in pieces. Eels vary much in their colors, from a sooty hue to a light olive green; and those which are called silver eels have their

bellies white, and a remarkable clearness throughout. There is a variety in the Thames called grigs, and about Oxford grigs or gluts. These are scarce ever seen about Oxford in the winter, but appear in spring, and bite readily at the hook, which common eels in the neighbourhood will not. They have a larger head, a blunter nose, thicker skin, and are less fat, than the common sort; they are less esteemed, and seldom exceed 3 or 4 lbs. in weight. Common eels grow to a large size, sometimes weighing 15 or 20 lbs., but such are extremely rare. Mr. Dale in the Philosophical Transactions, and some others, bring instances of eels much exceeding that size; but Mr. Pennant suspects them to have been congers, as these enormous fish were all taken at the mouths of the Thames or Medway. The Romans held eels very cheap, but the luxurious Sybarites were so fond of them as to exempt from tribute those who sold them. There is scarce any animal the generation of which has puzzled the learned more than this. Aristotle first broached an opinion that eels were of no sex, nor propagated their species like other animals, but were equivocally gendered of the mud; and, absurd as this hypothesis is, there have not been wanting many who have adopted it. But there is now no room to doubt that all animals are produced by the copulation of parents like themselves; and the finding of eels in new ponds is easily accounted for, from the above mentioned circumstance of their nocturnal migrations. Dr. Plot, and many others, have given accounts of whole droves of them leaving one ditch or pond to go to another. Though naturalists now generally allow that eels are produced like other animals, by parents of their own kind, yet there remain many doubts about the manner in which the generation is performed. Some allow the eels to be, like the generality of other animals, of different sexes in the different individuals; and others affirm that they are all hermaphrodites, each having the parts of both sexes. Rondeletius affirms that they are of both sexes; and Mr. Allan, who has given a very curious paper concerning them in the Philosophical Transactions, is of the same opinion. Both say, that the parts of the sexes may be discovered on a careful inspection; and some are found to be males and others females; but these parts are, in both sexes they say, buried in a large quantity of fat; and hence, they think, proceeded the mistake of Aristotle and his followers, who, not being able to find those parts, concluded that they did not exist. Among those who allow the eel to be produced, like other animals, from parents which have the sexes, some are of opinion that they are viviparous, and others that they are oviparous: but Mr. Chartwynd seems to have determined this controversy, by observing, that if the aperture under the belly of the eel, which looks red in May, be cut open at that time, the young eels will be seen to come forth alive after the operation. Eels have sometimes been met with in recent ponds, made at such a distance from any other water that we cannot reasonably suppose them to have migrated thither over land. But in these cases it is probable that the ponds have

breed supplied with them by aquatic fowls of prey, as vegetation is spread by many land birds, either by being dropped as they carry them to feed their young, or by passing quick through their bodies, as is the case with herons.

2. *M. conger*, the conger eel, grows to a vast size. Dr. Borlase informs us, that they are sometimes taken near Mount's Bay, of 100 lbs. weight; and some have been taken near Scarborough, that were ten feet and a half long, and eighteen inches in circumference in the thickest part. They differ from the common eel in the following particulars:—1. Their color in general is more dark. 2. Their eyes much larger in proportion. 3. The irides of a bright silvery color. 4. The lower jaw is rather shorter than the upper. 5. The inside line is broad, whitish, and marked with a row of small spots. 6. The edges of the dorsal and anal fins are black. 7. They have more bones than the common eel, especially along the back quite to the head. 8. They grow to a much larger size. Congers are extremely voracious, preying on other fish, and on crabs at the time they have lost their shell and are in a soft state. They and eels in general are also fond of carcases of any kind, being frequently found lodged in such as are accidentally taken up. The conger eels probably generate like the fresh-water species. Innumerable quantities of what are supposed to be their fry come up the Severn about April, preceding the shads, which it is conjectured migrate into that river to feed on them; they are called elvers. They swarm during their season, and are taken in a kind of sieve made of hair-cloth fixed to a long pole; the fisherman, standing on the edge of the water during the tide, puts in his net as far as he can reach, and, drawing it out again, takes multitudes at every sweep, and will take as many during one tide as will fill a bushel. They are dressed and reckoned very delicate. They are an article of commerce in Cornwall; numbers taken on that coast are exported to Spain and Portugal, particularly to Barcelona. Some are taken by a single hook and line; but, as that method is tedious, they are chiefly caught by bulwers. The fishermen are much afraid of a large conger, lest it should endanger their legs by clinging round them; they therefore kill them quickly by striking them on the vent. They are afterwards cured in this manner:—They are slit and hung on a frame till they dry, having a considerable quantity of fat, which it is necessary should exude before they are fit for use. A conger of 1 cwt. will be reduced by drying to 24 lbs. The smallest are therefore preferred, because they are soonest cured. The Portuguese and Spaniards use those dried congery after they have been ground into a powder, to thicken and give a relish to their soups. They are sold for about 40s. the quintal, which weighs 126 lbs.

MURAGE, *n. s.* } Lat. *murus*, a wall.
 MURAL, *adj.* } Money paid for keeping
 walls in repair: of or belonging to a wall;
 mure is used by Shakspeare for a wall. See
 MURE.

And repaired

Her mural breach, returning whence it rowl'd. Milton

In the nectarine and the like delicate *mural* fruit, the later your pruning the better.

Evelyn's Kalendar.

A soldier would venture his life for a *mural* crown.
Addison.

MURAKOS, a populous though small district of Hungary, the property of a single noble family; much subdivided, so that it is said no one holds more than four acres of land. The whole is about thirty miles in length by twelve broad, but contains a population of 46,000.

MURAL ARCH, a wall or walled arch, placed exactly in the plane of the meridian, i. e. upon the meridian line, for fixing a large quadrant, sextant, or other instrument, to observe the meridian altitudes, &c., of the heavenly bodies. Tycho Brahe was the first who used a mural quadrant in his observations; after him Hevelius, Mr. Flamstead, De la Hire, &c., used it. See ASTRONOMY.

MURANO, a town of Italy, subject to Austria, and situated on the Isle of Lagunes, east of Venice. Here the celebrated Venetian glasses and mirrors are manufactured. Population 4300.

MURANT (Emanuel), a much admired landscape painter, born at Amsterdam in 1622. He was a disciple of Philip Wouwerman, from whom he acquired that warmth and brilliancy of coloring, which rendered him eminent. His subjects were views in Holland, villages, towns, cities, ruins, and decayed castles, sketched after nature, and so exquisitely finished that every minute part of a building was perfectly discernible, and even every particular stone or brick might be counted. But this demanded so much time that it was impossible for him to paint many pictures; on which account they are exceedingly scarce, and sold for enormous prices. He died in 1700.

MURANUM, in ancient geography, a town of Italy, on the confines of Lucania, in Calabria Citra, at the springs of the Sybaris, midway between the Sinus Tarentinus on the east, and the Tuscan Sea on the west; now called Morano. It is supposed to have arisen from the ruins of Sypæum.

MURAT (Joachim), late king of Naples, was born 25th of March, 1771, at la Bastide, near Cahors, in the department of Lot, France, where his father kept a tavern. Being patronised by an ancient and respectable family of Perigord, he obtained a scholarship in the college of Cahors, and finished his studies for the priesthood at Toulouse. But his adventurous and rather wild disposition induced him to enter the army. Dismissed from his regiment, as insubordinate, he returned home till the formation of the national guard, in which he entered, and was sent to Paris. He afterwards became sub-lieutenant in a regiment of chasseurs; and, displaying his zeal for revolutionary principles, was soon advanced to the rank of lieutenant-colonel, and chief of brigade. In 1796 he accompanied Buonaparte as his aid-de-camp, to Italy. He was employed in negotiations by that chief at Turin and Genoa; and in 1798 commanded the army sent to effect the subordination of the Valteline. He followed his patron to Egypt,

and there distinguished himself at the battle of Mount Tabor. On his return he afforded Buonaparte assistance in his progress to the supreme power; was made commander of the consular guard; and soon after married to the sister of the first consul. At the battle of Marengo he commanded the cavalry; and in 1802 governed the Cisalpine republic, with the title of general. In January 1804 he was governor of Paris, with the title of general-in-chief; and, when Buonaparte was proclaimed emperor, directed the whole military force. Soon after he was made a marshal of France, and repeatedly distinguished himself in the campaign of 1806. Being invested with the grand duchy of Berg, he assumed the state of a sovereign prince in two campaigns, particularly at the battle of Jena. At Eylau and at Friedland he commanded the cavalry; and showed himself on every occasion the devoted agent of his imperial relative. In 1808 he was sent into Spain, and effected the temporary submission of that country; but on the 1st of August the same year was proclaimed king of the two Sicilies, and had reigned peaceably and with considerable popularity at Naples four years, when he was called upon to join the Russian expedition of Buonaparte. He commanded the French cavalry; and after the defeat of Smolensko imitated the example of his leader, and fled for Naples. In 1813 he joined the French; but, after the loss of the battle of Leipzig, endeavoured to make terms with their enemies by entering into separate negotiations with England and with Austria. His vacillating conduct proved at length his ruin, and by a well constructed conspiracy he was hurled from his throne and obliged to reside some time at Plaisance, near Toulon. After the battle of Waterloo he at first took refuge in Corsica; whence with a few followers he sailed to Italy in the summer of that year, in the hope of recovering his crown; but was made prisoner soon after his landing, and conducted to the castle of Pizzo, where he was shot October 13th 1815.

MURATORI (Lewis Anthony), F. R. S., a celebrated Italian writer, born at Vignoles, in Bologna, in 1672. He early discovered a fondness for the languages and sciences. Having completed his studies, he became an ecclesiastic; but devoted his time to literature, philosophy, theology, civil law, antiquities, &c. In 1694 he was made librarian of the Ambrosian library at Milan; and in 1700 the duke of Modena made him his librarian, keeper of the Archives, and provost of Santa Maria del Pomposa. He acquired the esteem of the learned throughout Europe, and became an associate of the academies of the Arcades of Rome, Della Crusca, and Colomberia, of Florence, of Etrusca at Cortona, of the Imperial Academy of Olmutz, and F. R. S. of London. He died in 1750. He wrote, 1. *Anecdota*; or A Collection of Pieces from the Ambrosian Library; 2 vols. 4to., with notes. 2. A Treatise on the Italian Poetry, 2 vols. 4to. 3. *Anecdota Græca*, 3 vols. 4to. 4. A Genealogical History of the House of Modena, 2 vols. folio. 5. A Collection of the writers of Italian History, 27 vols. folio, with learned notes. 6. *Antiquitates Italicæ*. 7. A Collection of Ancient

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Inscriptions, entitled *Novus Thesaurus*, 6 vols. folio. 8. The Annals of Italy, 12 vols. 4to., in Italian, &c. 9. Letters, Dissertations, Italian Poems, &c.

MURCIA, in ancient mythology, the goddess of idleness. The name is taken from *murcie* or *murcidus*, an obsolete word, signifying a dull, slothful, or lazy person. The statutes of this goddess were always covered with dust and moss to express her idleness and negligence. She had a temple in Rome, at the foot of the Aventine mount.

MURCIA, an important province of Spain, situated between Valencia on the east, Andalusia on the west, and the Mediterranean on the south. It is ninety miles long and above sixty broad; having an area of 8000 square miles, and a population of 384,000. Its aspect is in general mountainous; its climate is very fine, the sky being seldom clouded, and mists wholly unknown: several months often elapse without the falling of a shower.

The mountains in this province are chiefly branches of the great Roman chain Montes Orospedani; the most remarkable are the *Sieras de Penas*, de *Chinchilla*, d'*Orihuela*, d'*Almanza*, and de *Carascoy*. The province is watered by the *Segura*, *Guadalentin*, *Benamor*, and *Guardavar*. The soil is in general fertile, and the climate beautifully clear, mild, and salubrious, particularly in the *Huerta*, or track watered by the *Segura*; in the parts called *Compos* it is of equal fertility, but not so well watered. The products are wheat, barley, vines, olives, mulberries, saffron, hemp, and rice: also in good quantity citrons, pomegranates, and almonds. Several of the mountains have good pasturage; but it is neglected, and the boars are not expelled from the thinly peopled parts of this province. The mineral products are lead, copper, sulphur, nitre, alum, crystal, and marble; but the inhabitants turn them to little account. The only manufactures are a few coarse cloths and silk stuffs, made in the town of Murcia; earthenware, soap, and cutlery. The extent of coast here is considerable, and Murcia contains Carthageña one of the best harbours in the world; but the roads of the interior are wretched, and the commerce comparatively unimportant. The exports are cutlery, hemp, silk, ribands, wine, corn, soda, saffron, and bassweed, all in small quantities. The inland trade is chiefly promoted by three great fairs held in September, at Murcia in the centre, at Lorca in the south, and Albacete in the north of the province. The chief towns are Carthageña, Murcia, Lorca, Chinchilla, Albacete, Villena, and Almanza. At Carthageña the majority of the inhabitants are of French, English, or Italian descent.

MURCIA, a considerable town of Spain, the capital of the foregoing province, stands on the north bank of the *Segura*, in the midst of a large and beautiful valley. It is surrounded by mulberry trees, but bounded at the distance of nearly four miles to the east by lofty, naked, mountains. The town was formerly walled. It is now divided into the Old and New towns, and a suburb on the south side of the river. It is ill built throughout; and there are but three or four

streets in which two carriages can pass; nor are these lighted during night. The only good square is the one where bull-fights are exhibited; this is spacious, and surrounded by tolerably neat houses. Murcia has eleven churches, ten monasteries, nine convents, a tribunal of the inquisition, three colleges for the secular clergy, and three hospitals. There are also two public libraries, devoted chiefly to old scholastic theology. The bishopric of Carthagea was transferred hither in 1291. The diocese comprehends the greater part of the province, and the bishop's revenue is said to exceed £20,000 sterling a year. The cathedral stands in the same square as the episcopal palace, and is a very large edifice: it is chiefly noted for a large dome, beyond which there are three aisles separated by enormous pillars formed of groups of slender columns clumped together; almost all the ornaments are in a bad taste. The churches of Santa Olalla and San Juan are on the same plan, but in better taste: those of La Caridad and St. Peter, and the Franciscan and Dominican convents, are all richly decorated and endowed.

The population of the town is nearly 35,000; that of its Huerta or dependency about 42,000 more. The working of bassweed employs a number of hands and furnishes a quantity of mats for export: here is also a refinery of saltpetre, and, at the distance of four miles from the town, several powder mills, worked for the government. The establishment for twisting silk is extensive, machinery being now employed for that purpose; still the trade and manufactures of the town are alike inconsiderable.

The public walks in and about Murcia are fine, and comprise the arsenal, a spot of ground gained from the river by an embankment; the botanical garden; the Alameyda, or public walk properly so called; and the Malecón, a large quay thrown up to prevent the encroachments of the Segura. The families of nobility and gentry are numerous, and pretend to be the most illustrious of Spain. The Murcian seldom leaves, it is said, his native city, and is hardly ever to be found either at the court, in the army, or in the professions. He passes his time in eating, drinking, sleeping, smoking his cigar, counting his beads, and dragging his limbs to some place where he may sit down in Asiatic idleness. Though the sky is clear, and rain falls rarely, the number of canals produces a degree of humidity in the air, which, joined to want of exercise, engenders liver diseases here. In summer the heat is excessive, the thermometer being often at or above 100°.

Murcia is first mentioned in history in the year 713, when it was taken by the Moors. In 1236 it became the capital of a separate kingdom. It was taken by Alphonso X. of Castile in 1265, who fortified it and peopled it with Catalans, Arragonese, and emigrants from France. In the beginning of the eighteenth century it declared for the Bourbons; and its bishop, Belluga, armed the citizens and peasantry, cut the canals and reservoirs, and altered the course of the Segura, which produced such an inundation that the troops of the archduke could not advance. Orihuela, and even Carthagea,

soon after fell into the hands of this prelate. It is 106 miles S. S. W. of Valencia, and 140 east by north of Jaen.

MURDER, *n. s., v. a., & interj.*

MURDERER, *n. s.*

MURDERESS,

MURDERMENT,

MURDEROUS, *adj.*

Saxon }
 monðor, }
 monðær, }
 Gothic, }
 Swed., and }
 Teut. *mord*, death; *morder*, *mordare*; Belgic, *moorder*; Ital. *mortair*; Fr. *meurtre*; Lat. *mors*; Gr. *μωρος*, death. Malicious or unlawful homicide; to kill a man unlawfully; to destroy: as an interjection it is used for a cry of alarm in mortal danger: a murderer is one who sheds human blood unlawfully, and is used of both sexes who commit the crime: murderess, a woman who commits murder: murderment is an unnecessary and obsolete synonyme of murder: murderous, guilty of, or addicted to murder; bloody; cruel.

Thou dost kill me with thy falsehood, and it grieves me not to die; but it grieves me that thou art the murderer. *Sidney.*

Blood hath been shed ere now, i' th' olden time, Ere human statute purged the general weal; Ay, and since too, murders have been performed Too terrible for the ear. *Shakspeare. Macbeth.*

Can'st thou quake and change thy color, Murder thy breath in middle of a word, And then again begin, and stop again? *Shakspeare.*

Let the mutinous winds Strike the proud cedars to the fiery sun. Murdering impossibility, to make What cannot be, slight work. *Id. Coriolanus.*

Kill men i' the dark! where be these bloody thieves? *Id. Othello.*

Ho, murder! murder! *Id. Othello.*
 I am his host,
 Who shall against his murderer shut the door,
 Not bear the knife myself. *Id. Macbeth.*

Eyes, that are the frailest and softest things,
 Who shut their coward gates on atomies,
 Should be called tyrants, butchers, murderers. *Shakspeare.*
 'Oh, murderous coxcomb! what should such a fool Do with so good a wife? *Id. Othello.*

To her came message of the murderment. *Fairfax.*

The very horror of the fact had stupified all curiosity, and so dispersed the multitude, that even the murderer himself might have escaped. *Wotton.*

When by thy scorn, O murderess! I am dead,
 Then shall my ghost come to thy bed,
 And thee feigned vestal in worse arms shall see. *Milton.*

Enforced to fly
 Thence into Egypt, till the murderous king
 Were dead, who sought his life; and missing, filled
 With infant blood the streets of Bethlehem. *Id.*

Slaughter grows murder when it goes too far,
 And makes a massacre what was a war. *Dryden.*

Like some rich or mighty murderer,
 Too great for prison, which he breaks with gold,
 Who fresher for new mischiefs does appear,
 And dares the world to tax him with the old. *Id.*

Diana's vengeance on the victor shown,
 The murderess mother, and consuming son. *Id.*

Art thou the *murderess* then of wretched Laius?

Id.

See my royal master *murdered*,

His crown usurped, a distaff in the throne. *Id.*

The killing of their children had, in the account of God, the guilt of *murder*, as the offering them to idols had the guilt of idolatry.

Locke.

This stranger having had a brother killed by the conspirator, and having sought in vain for an opportunity of revenge, chanced to meet the *murderer* in the temple.

Addison.

If she has deformed this earthly life

With *murderous* rapine and seditious strife;

In everlasting darkness must she lie. *Prior.*

With equal terrors, not with equal guilt,

The *murderer* dreams of all the blood he spilt.

Swift.

He was inclined to show an usurper and a *murderer* not only odious, but despicable; he therefore added drunkenness to his other qualities, knowing that kings love wine like other men, and that wine exerts its natural power over kings.

Johnson.

From the earliest dawns of policy to this day, the invention of men has been sharpening and improving the mystery of *murder*, from the first rude essay of stones, to the present perfection of gunnery, cannoning, bombarding, mining.

Burke.

Him, Tubal named, the Vulcan of old times,

The sword and falchion their inventor claim;

And the first smith was the first *murderer's* son.

Couper.

MURDER. Under the articles HOMICIDE and MANSLAUGHTER we have stated the law in relation to the instances in which the killing of a human being is held to be either excusable or justifiable; and also where, though not justifiable, it does not amount to the crime of murder. We have now to treat of homicide in its last and most atrocious character.

Of the general nature of the crime.—Murder, according to Sir Edward Coke, is committed when a person of sound memory and discretion unlawfully killeth any reasonable creature, in being, and under the king's peace, with malice aforethought, either express or implied.

It must be committed by a person of sound memory and discretion. Lunatics or infants are incapable of committing any crime, unless they show a consciousness of doing wrong and a discretion or discernment between good and evil. If an infant under twelve years of age acts so that it may be presumed he knows what he does, and he kill another, it may be adjudged felony and murder; though it is not probable that the sentence would be executed. An infant's hiding the body is a circumstance from which to presume a capacity to distinguish right from wrong.

It is essential to a conviction for murder that the killing should be unlawful: that is without warrant or excuse.

And the offence is not complete unless the party die within a year and a day after the injury received or the cause of death administered; in the computation of which the whole day upon which the hurt was done shall be reckoned the first. It is no excuse for the accused that the person hurt might have recovered if he had not neglected to take care of himself. Nor where a man has some disease which possibly would terminate his life in half a year, but whose death is hastened by the wounds

he receives. But if the wound or hurt be not mortal, and the party dies owing to ill applications of medicine, and it appear that the medicine, and not the wound, was the cause of death, it seems it is not homicide.

As a general rule all homicide is 'malicious,' and amounts to murder, unless where justified by the command or permission of the law, excused on account of accident or self-preservation, or alleviated into manslaughter by being either the involuntary consequence of some act, not strictly lawful, or (if voluntary) occasioned by some sudden and sufficiently violent provocation. All these circumstances of justification, excuse, or alleviation, it is incumbent upon the prisoner to make out to the satisfaction of the court and jury; the latter of whom are to decide whether the circumstances alleged are proved to have actually existed; the former, how far they extend to take away or mitigate the guilt. For all homicide is presumed to be malicious until the contrary appears upon evidence.

Of the different kinds of murder.—As there are as many ways of killing as there are modes by which one may die, Moriendi mille figuræ, it is laid down in general, that not only he, who, by a wound or blow, or by poisoning, strangling, famishing, or other means, directly causes the death of another; but also, in many cases, he who by wilfully and deliberately doing a thing, which apparently endangers another's life, thereby occasions his death, shall be adjudged to kill him.

Thus if a man does such an act of which the probable consequence may be, and eventually is, death; such killing may be murder, although no blow be struck by himself, and no killing may be primarily intended. Such was the case of the unnatural son, who exposed his sick father to the cold air against his will, by reason whereof he died. So of the woman who laid her child under leaves in an orchard where a kite struck and killed it. And also of the parish officers who shifted a child from parish to parish till it died for want of care and sustenance. So also any one having the care of another and refusing necessary sustenance, or inflicting severities, though not calculated to produce immediate death, yet if death clearly ensue in consequence of the ill-treatment it is murder.

Murder is committed when the death of a prisoner is occasioned by confinement in a noisome place, or in the same room with another prisoner known to be affected with an epidemic distemper, or by loading him with improper fetters. Hence, when any person dies in gaol, the coroner should enquire into the manner of his death. It was also held to be murder not only in the person accusing another who was innocent, and who on his evidence was condemned and executed, but also in compelling any one by duress to do so. But there is no modern instance in which it has been held to be murder or punished as such. The reason of which probably is that if it were so adjudged it would deter witnesses from giving evidence on capital prosecutions, lest their own lives might be endangered. If a person who is infected with the plague goes abroad with the intention of infecting another, and another is thereby infected, and dies; this,

it seems, is murder. So if two or more persons come together to do an unlawful act against the king's peace, of which the probable consequence might be bloodshed; as to beat a man, to commit a riot, or to rob a park, and one of them kills a man, it is murder in them all, because of the unlawful act, or evil intended before hand.

So too, if a man has a beast that is used to do mischief, and he knowing it suffers it to go abroad and it kills a man—this is manslaughter in the owner; but if he had purposely turned it loose, though barely to frighten people and make what is called sport, it is as much murder as if he had incited a bear or dog to worry them.

But if a physician or surgeon gives his patient a potion or plaster to cure him, which, contrary to expectation, kills him, this is neither murder nor manslaughter, but misadventure; and he shall not be punished criminally, however liable he may be to a civil action for neglect or ignorance.

Of the persons murdered.—The person killed must be a reasonable creature in being, at the time of the killing. To kill a child in its mother's womb is now no murder, but a great misprision. However if the child be born alive, and dies by reason of the potion or bruises it received in the womb, it seems, by the better opinion, to be murder in such as administered or gave them.

In the case of the murder of illegitimate children, it is enacted by 21 James I. c. 27, if any woman be delivered of a child, which if born alive should by law be a bastard, and endeavours privately to conceal its death, by burying the child, or the like; the mother so offending shall suffer death as in the case of murder, unless she can prove by one witness at least that the child was actually born dead.

It has, however, for many years been usual, upon trials for this offence, to require some sort of presumptive evidence that the child was born alive, before the other constrained presumption that the child whose death is concealed was therefore killed by its parent is admitted to convict the prisoner.

And according to the 43d Geo. III. c. 58, administering drugs, or using any other contrivance to destroy a living infant unborn, is felony, both in the perpetrators and abettors. If the mother is not quick with child, still an attempt to procure an abortion is punishable with fine, imprisonment, whipping, or transportation, for any period less than fourteen years.

By the same statute, women concealing the birth of an illegitimate child are liable to two years' imprisonment.

As the law was formerly laid down the person killed must be under the king's peace; but the better opinion is that the malicious killing of any person, of whatsoever nation or religion he may be, or of whatsoever crime attainted, is murder. Thus if a man kill an alien enemy within this kingdom, it is felony, unless it be in the heat of war and in the actual exercise thereof. And a person outlawed of felony, or attainted of præmunire is equally protected; for the execution of a sentence must be by a lawful officer, lawfully appointed; and therefore if a person be con-

demned to be hanged, and the sheriff behead him, it is said this is murder, and the wife is entitled to an appeal.

Of murder, where the malice is prepense.—The killing must be committed with malice aforethought to make it the crime of murder. This is the grand criterion which now distinguishes murder from other killing. And this malice prepense is not so properly spite or malevolence to the deceased in particular, as any evil design in general; the dictate of a wicked, depraved, and malignant heart; and it may be either express or implied in law.

Express malice is when one, with a sedate deliberate mind and formed design, doth kill another. This formed design is evidenced by external circumstances discovering that inward intention; as lying in wait, antecedent menaces, former grudges, and concerted schemes to do him some bodily harm.

Such is the case of deliberate duelling, where both parties meet avowedly with an intent to murder, and therefore the law has justly fixed the crime and punishment of murder on them, and also on their seconds; and the crime is the same although committed under provocation of charges, however grievous, against the character. The mere incitement to fight, though under such provocation, is a high misdemeanor. Even upon a sudden provocation, if one beats another in a cruel and unusual manner, so that he dies, though he did not intend his death, yet he is guilty of murder by express malice—that is by an express evil design. Neither shall he be guilty of a less crime who kills another in consequence of such a wilful act as shows him to be a wilful enemy to all mankind: as going deliberately and with an intent to do mischief upon a horse used to strike, or coolly discharging a gun among a multitude of people. So if a man resolves to kill the next man he meets, and does kill him, it is murder, although he knew him not; for this is universal malice.

A man is esteemed to fight in cool blood, when he meets in the morning on an appointment over night; or in the afternoon on an appointment in the morning; or, as some say, if he fell into other discourse after the quarrel, and talked calmly upon it; or, if he have so much consideration as to observe that it is not proper or safe to fight at present, for such and such reasons, which show him to be master of his temper.

Of murder, where the malice is implied.—In many cases where no malice is expressed, the law will imply it—as where a man wilfully poisons another, in such a deliberate act the law presumes malice, though no particular enmity can be proved.

If a man kills another suddenly, without any, or without a considerable provocation, the law implies malice; for no person, unless of an abandoned heart, would be guilty of such an act upon a slight or no apparent cause. No affront by words or gestures only is a sufficient provocation, so as to excuse or extenuate such acts of violence as manifestly endanger the life of another. But if the person so provoked had unfortunately killed the other, by beating him

in such a manner as showed only an intent to chastise and not to kill him, the law so far considers the provocation of contumelious behaviour, as to adjudge it only manslaughter, and not murder. In like manner, if one kills an officer of justice, either civil or criminal, in the execution of his duty, or any of his assistants endeavouring to conserve the peace, or any private person endeavouring to suppress an affray, or apprehend a felon, knowing his authority, or the intention with which he interposes, the law will imply malice, and the killer shall be guilty of murder. So if a person, intending to commit a felony, undesignedly kills a man, this also is murder. Thus if one shoots at A, and misses him, but kills B, this is murder, because of the previous felonious intent, which the law transferred from one to the other. The same is the case where one lays poison for A; and B (against whom the accused had no malicious intent) takes it, and it kills him, this is likewise murder. So also, if one gives a woman with child a medicine to procure abortion, and it operates so violently as to kill the woman, this is murder in the person who gave it. But sometimes the plain sense and feelings of a jury will revolt at these legal and tortuous rules. As in a case that occurred a few years since, in which a man, meaning to shoot a paramour of his wife's, by accident, on a dark evening, shot his own son. The indictment being laid that, with malice aforethought, &c., he shot his son, the jury, notwithstanding the judge's directions to the contrary, acquitted him.

Of the place where the murder is committed.

1. *Out of the realm.*—It seems that the killing of one who is both wounded and dies out of the realm, or wounded out of the realm and dies here, cannot be determined at common law, because it cannot be tried by a jury of the neighbourhood where the fact was done. But it is agreed that the death of one who is both wounded and dies beyond sea, and it is said by some that the death of him who dies here of a wound given him there, may be heard and determined before the constable and the marshal, according to the civil law, if the king please to appoint a constable. And it seems also to be clear that such a fact, being examined by the privy council, may, by force of 33 Henry VIII. c. 23, be tried before commissioners appointed by the king in any county of England. It has been decided indeed that this act extends to all murders committed out of the realm.

A murder at sea was anciently cognisable only by the civil law; but now by the statutes 27 Henry VIII. c. 4, and 28 Henry VIII. c. 15, it may be tried and determined before the king's commissioners in any county of England, according to the course of the common law. The commissioners to be appointed under these statutes are the admiral or his deputy, and three or four more, among whom two common law judges are constantly appointed, who in effect try the prisoners. This is now the only method of trying marine felonies in the court of admiralty. The judge of the admiralty presiding there, as the lord mayor presides at the sessions in London.

2. *In different counties.*—It has been said that the death of one who died in one county of a wound received in another is not indictable at all at common law, because the offence was not complete in either county. The act called lord Ellenborough's act would of course remove this difficulty; but, independently of this statute, it has been held that if the corpse were carried into the county where the wound was given the whole might be enquired of by a jury of the same county. And it is agreed that an appeal might be brought in either county, and the fact tried by a jury returned jointly from each. It is now however clear that by 2 and 3 Edw. VI. c. 24, the whole is triable by a jury of the county wherein the death shall happen.

3. *In Wales.*—By the statute of Henry VIII. c. 6, a murder in Wales may be enquired of in an adjoining English county.

Of the indictment.—If a person be indicted for one species of killing, as by poisoning, he cannot be convicted by evidence of a totally different species of death, as by shooting with a pistol or starving. But where they only differ in circumstance, as if a wound be alleged to be given with a sword and it proves to have arisen with a staff, an axe, or a hatchet, this difference is immaterial.

Of the punishment.—Murder is punished almost universally throughout the world with death. The general precept, as Blackstone terms it, which was given to Noah (Gen. ix. 6), that 'whoso sheddeth man's blood, by man shall his blood be shed,' has been contended to import rather a prophetic warning of the general fate of a murderer than an express injunction judicially to put him to death. The words of the Mosaic law, however, are very emphatical in prohibiting the pardon of murderers, or the remission of the capital punishment: 'moreover ye shall take no satisfaction for the life of a murderer, who is guilty of death, but he shall surely be put to death; for the land cannot be cleansed of the blood that is shed therein, but by the blood of him that shed it.' Numb. xxxv. 31.

The punishment of murder and that of manslaughter were formerly the same; both having the benefit of clergy. But now, by several statutes, the benefit of clergy is taken away from murderers, through malice prepense, their abettors, procurers, and counsellors. By 25 Geo. II. c. 37 it is enacted that the judge, before whom any person shall be found guilty of wilful murder, shall pronounce sentence immediately after conviction, unless he sees cause to postpone it; and shall, in passing sentence, direct him to be executed on the next day but one (unless the same shall be Sunday, and then on the Monday following), and that his body be delivered to the surgeons to be dissected and anatomised; and that the judge may direct his body to be afterwards hung in chains but in no wise to be buried without dissection. And, during the short but awful interval between sentence and execution, the prisoner shall be kept alone, and sustained with only bread and water. But a power is allowed to the judge, upon good and sufficient cause, to respite the execution, and relax the other restraints of this act.

Of petit treason.—This is an aggravated degree of murder, and may happen (according to the 25 Edw. III. c. 27), in three ways:—1. By a servant killing his master. 2. A wife her husband. 3. An ecclesiastical person, either secular or regular, his superior, to whom he owes faith and obedience.

A servant who kills his master whom he has left, upon a grudge conceived against him during his service, is guilty of petit treason; for the traitorous intention was hatched while the relation subsisted between them, and this is only an execution of that intention.

So if a wife be divorced, a *mensâ et thoro*, still the vinculum matrimonii subsists, and, if she kill such divorced husband, she is a traitress.

A clergyman is understood to owe canonical obedience to the bishop who ordained him, to him in whose diocese he is benefited, and also to the metropolitan of such suffragan or diocesan bishop; and therefore to kill any of these is petit treason. As to the rest, whatever respects wilful murder, is also applicable to the crime of petit treason, which is no other than murder in its most odious degree; except that the trial shall be as in cases of high treason before the improvements therein made by the statutes of William III. But a person indicted of petit treason may be acquitted thereof and found guilty of manslaughter or murder; and in such case it shall seem that two witnesses are not necessary as they are in the case of petit treason.

The punishment of petit treason is to be drawn and hanged. Persons guilty of petit treason were first debared the benefit of clergy, by stat. 12 Henry VII. c. 7, which has been since extended to their aiders, abettors, and counsellors, by stat. 23 Henry VIII. c. 1, and 4 and 5 Philip and Mary, c. 4.

Of stabbing and cutting.—By 43 Geo. III. c. 58 (usually called lord Ellenborough's Act), persons who stab or cut, with intent to murder, maim, or disfigure another, or to prevent the arrest of culprits, are declared guilty of felony without benefit of clergy. Those who are guilty of malicious shooting at another, in any dwelling house, or other place, are also punishable, under the same statute, in the same degree.

MURDERER'S BAY, a bay on the west coast of Staten Land, or New Zealand; so named by Tasman from some of his crew being murdered here by the natives, in December 1642. It lies between Cape Farewell and Rocky Point. Lat. 40° 49' S.

MURDERERS, or MURDERING PIECES, in a ship, are small pieces of ordnance, either of brass or iron, which have chambers put in at their breeches. They are used at the bulk-heads of the fore-castle, half-deck, or steerage, in order to clear the deck, when the ship is boarded by an enemy.

MURE, *n. s. & v. a.* Fr. *mur*; Lat. *murus*. A wall. Not in use. As a verb, to shut up, or inclose within walls.

All the gates of the city were *mured* up, except such as were reserved to sally out at. *Knolles*.

The incessant care and labour of his mind hath wrought the *mure*, that should confine it in, So thin, that life looks through and will break out.

Shakespeare.

MURENGERS are two officers of great antiquity in the city of Chester, annually chosen out of the aldermen, to see that the walls are kept in repair, and to receive a certain toll and custom for the maintenance thereof.

MURET, or MUREUS (Mark Anthony Francis), was born at Muret, near Limoges, in 1526. He acquired a perfect knowledge of the Greek and Latin tongues, and became one of the most learned men of his time. After having taught some time in Provence, he was made a professor at Paris, along with Turnebus and Buchanan. In 1544 he went into Italy; and in 1563 was professor of law, philosophy, and history, in Rome, where he died in 1585. His principal works are, 1. Notes on Terence, Horace, Catullus, Tacitus, Cicero, Sallust, Aristotle, Xenophon, &c. 2. Orationes. 3. Variæ Lectiones, Poemata, Hymni Sacri. 4. Disputationes in Lib. I. Pandectorum de Origine Juris, &c. 5. Epistolæ, Juvenilia Carmina, &c. Most of his works have been printed in the Venice edition of 1737, in 5 vols. 8vo.

MUREX, in zoology, a genus of the order of vermes testacea. This animal is of the snail kind: the shell consists of one spiral valve, rough, with membranaceous furrows, and the aperture terminates in an entire canal, either straight, or somewhat ascending. There are sixty species, particularly distinguished by peculiarities in their shells, &c. From a species of murex was obtained the famous Tyrian dye, so much valued by the ancients. This, however, has long been superseded by the use of the cochineal. One of the shells producing the dye was a kind of buccinum; but the finest, or Tyrian purple, was procured from the murex. These species of shells are found in various parts of the Mediterranean. Immense heaps of them are to be seen about Tarentum, evincing one place where this precious liquor was extracted. They are also found on the coasts of Guayaquil and Guatimala in Peru. The shells adhere to the rocks that are washed by the sea; and are of the size of a large walnut. The liquor may be extracted two ways: some kill the animal after they have drawn it out of the shell; then press it with a knife from head to tail; separate from the body the part where the liquor is collected, and throw away the rest. When this operation, after being repeated on several snails, has afforded a certain quantity of fluid, the thread intended to be dyed is dipped in it, and the process is finished. The color which is at first of the whiteness of milk, becomes afterwards green, and is not purple till the thread is dry. Others draw the fish partly out of the shell, and, squeezing it, make it yield a fluid which serves for dyeing: they repeat this operation four times, at different intervals, but always with less success. If they continue it, the fish dies. No color, at present known, says the abbé Raynal, can be compared to this, either as to lustre, liveliness, or duration. It succeeds better on cotton than wool, linen, or silk.

MUREX, a caltrop or iron instrument, with sharp points projecting in every direction, used by the Romans as a defence against the enemy's horse. It was so called, probably, because the

points bore some resemblance to the spines and tubercles with which the shell of the murex is surrounded.

MURFREESBOROUGH, a post town of Rutherford county, Tennessee; thirty-two miles south-east of Nashville, 160 west of Knoxville. Population, in 1818, about 1100. It is the seat of the state government, and is pleasantly situated on an eminence, which descends in every direction, and contains a court-house, jail, market-house, a branch of the Nashville bank, an academy, a printing office from which is issued a weekly newspaper, a meeting-house, &c. The public buildings are handsomely built of brick, and the dwelling houses are mostly brick, or framed, two stories high. An elegant brick Presbyterian church has been lately erected. Murfreesborough was established only about six years ago, and was made the seat of the state government in 1817. It is one of the most considerable and flourishing towns in the state, has a very healthy situation, is watered by excellent springs, and there are within two miles and a half two mineral springs, whose waters are useful in several complaints. In the vicinity of the town, on the branches of Stone's River, there are valuable mills. The district of country, in which this town is situated, is one of the richest in the state, abounding in corn, wheat, cotton, tobacco, timothy, and various other kinds of grass. The land is very fertile, and level; there is no hill of any considerable elevation within ten miles. New Orleans is the market for the merchandise of this place. The road is excellent to Nashville, where commences a steam boat navigation.

MURG, a river in the south-west of Germany, rising near Oppenau, and which after a course of 100 miles to the north-west, falls into the Rhine near Rastadt. It is of much use in floating timber from the Black Forest.

MURG, one of the ten districts of the grand duchy of Baden, lying along the river Murg. It contains 85,000 inhabitants, and is divided into eight bailiwicks. Rastadt is the chief town.

MURGHÉLAN, a large city of Tartary, subject to the khan of Koukan. It stands on a fine river, and the environs are delightful and well supplied with water.

MURIATIC, *adj.* Lat. *muria*, brine. Partaking of the taste or nature of brine.

If the scurvy be entirely *murietick*, proceeding from a diet of salt flesh or fish, antiscorbutick vegetables may be given with success, but tempered with acids. *Arbutnot.*

MURIATIC ACID, or hydrochloric acid, in chemistry, is a combination of chlorine with hydrogen which may be procured by various methods. Let six parts of pure and well dried sea salt (muriate of soda) be put into a glass retort over a lamp; to the beak of the retort lute in a horizontal direction a long glass tube artificially refrigerated and containing a quantity of muriate of lime. Upon the salt pour at intervals five parts of concentrated sulphuric acid through a syphon funnel fixed air tight in the tubular of the retort. The free end of the long tube being recurved, so as to dip into the mercury of a pneumatic trough, a gas will issue, which on coming in contact with the air will form a visible

cloud, or haze, presenting, when viewed in a vivid light, prismatic colors.

This gas is muriatic acid gas, and when combined with water forms the muriatic acid of commerce.

In the ancient method, common salt was previously decrepitated, then ground with dried clay, and kneaded with water into balls of the size of a pigeon's egg: which, after having been well dried, were put into a retort, so as to fill the vessel two-thirds full; distillation being then proceeded upon, the muriatic acid came over when the heat was raised to ignition. In this process eight or ten parts of clay to one of salt are to be used. The retort must be of stone-ware well coated, and the furnace must be reverberatory.

Sir H. Davy first gave the just explanation of this decomposition. Common salt is a compound of sodium and chlorine. The sodium may be conceived to combine with the oxygen of the water in the earth, and with the earth itself to form a vitreous compound; and the chlorine to unite with the hydrogen of the water, forming muriatic acid gas. 'It is also easy,' adds he, 'according to these new ideas, to explain the decomposition of salt by moistened litharge, the theory of which has so much perplexed the most acute chemists. It may be conceived to be an instance of compound affinity; the chlorine is attracted by the lead, and the sodium combines with the oxygen of the litharge, and with water, to form hydrate of soda, which gradually attracts carbonic acid from the air. When common salt is decomposed by oil of vitriol it was usual to explain the phenomenon by saying, that the acid by its superior affinity, aided by heat, expelled the gas, and united to the soda. But, as neither muriatic acid nor soda exists in common salt, we must now modify the explanation, by saying that the water of the oil of vitriol is first decomposed, its oxygen unites to the sodium to form soda, which is seized on by the sulphuric acid, while the chlorine combines with the hydrogen of the water, and exhales in the form of muriatic acid gas.'

The English manufacturers use iron stills for the distillation of muriatic acid with earthen heads: the philosophical chemist, in making the acid of commerce, will prefer glass. Five parts by weight of strong sulphuric acid are to be added to six of decrepitated sea salt, in a retort, the upper part of which is furnished with a tube or neck, through which the acid is to be poured upon the salt. The aperture of this tube must be closed with a ground stopper immediately after the pouring. The sulphuric acid immediately combines with the alkali, and expels the muriatic acid in the form of a peculiar air, which is rapidly absorbed by water. As this combination and disengagement take place without the application of heat, and the aerial fluid escapes very rapidly, it is necessary to arrange and lute the vessels together before the sulphuric acid is added, and not to make any fire in the furnace until the disengagement begins to slacken; at which time it must be very gradually raised. Before the modern improvements in chemistry were made, a great part of the acid escaped for

want of water to combine with; but, by the use of Woolfe's apparatus, the acid gas is made to pass through water, in which it is nearly condensed, and forms muriatic acid of double the weight of the water, though the bulk of this fluid is increased one-half only. The acid condensed in the first receiver, which contains no water, is of a yellow color, arising from the impurities of the salt.

The marine acid of commerce has a straw color: but this is owing to accidental impurity; for it is not found in the acid produced by the impregnation of water with the æriform acid.

When this æriform acid, commonly called muriatic acid gas, is received in glass jars over mercury it is invisible and possesses all the mechanical properties of atmospheric air.

Its odor is pungent and peculiar; its taste acid and corrosive. Its specific gravity, according to Sir Humphry Davy, is such, that 100 cubic inches weigh thirty-nine grains, while by estimation, he says, they ought only to be 38.4. By the latter number the specific gravity, compared to air, becomes 1.2590, by the former number 1.2800. M. Gay Lussac states the specific gravity at 1.2780. Sir H.'s second number makes the prime equivalent of chlorine 4.43, which comes near to Berzelius's latest result; while his first number makes it 4.48. See CHLORINE. As the attraction of muriatic acid gas for hygrometric water is very strong, it is very probable that 38.4 grains may be the more exact weight of 100 cubic inches, regarding the same bulk of air as = 30.5. See the Table of Gases. If an inflamed taper be immersed in it, it is instantly extinguished. It is destructive of animal life; but the irritation produced by it on the epiglottis scarcely permits its descent into the lungs. It is merely changed in bulk by alterations of temperature; it experiences no change of state. When potassium, tin, or zinc, is heated in contact with this gas over mercury, one-half of the volume disappears, and the remainder is pure hydrogen. On examining the solid residue, it is found to be a metallic chloride. By passing muriatic acid gas over litharge, muriate of lead is formed, and a quantity of water produced. The same takes place when oxide of silver is similarly employed, the water being equal to about one-fourth the weight of the gas.

Conceiving, from these facts, that muriatic acid gas was a compound of three-fourths of the real acid with one-fourth of water, the French chemists made some experiments with a view to obtain the acid free from water. For this purpose they applied the vitreous superphosphate of lime, and afterwards the vitreous boracic acid, to the dry muriates; but, although exposed to a high temperature, no muriatic acid could be disengaged. If, however, a few drops of water were added, the muriatic acid instantly separated

in the form of gas. Hence they found, that muriatic acid could not be separated from its compounds without the presence of water. Their next object was to attempt to separate the oxygen from the *oxymuriatic* acid, and by that means get the muriatic acid free from water, as they had reason to believe that the former did not contain water. This object, however, they found of no less difficulty than the last. Metallic substances were ineffectual for this purpose, in consequence of their combination with the acid they wished to obtain. When they employed sulphur they obtained a peculiar compound of the acid with the sulphur which had before been discovered by Dr. Thomson, under the name of the sulphureted muriatic acid. Phosphorus also combined with the acid, forming a peculiar substance. Their next experiment was to pass *oxymuriatic acid gas* over red-hot carbon: at first some muriatic acid was formed, but they ultimately found that carbon had no effect upon *oxymuriatic acid* when no moisture was present. They further found that when the *oxymuriatic acid* was brought in contact with sulphurous acid gas, with nitric oxide, or with carbonic oxide, no decomposition took place, except with the presence of water or hydrogen. Hence muriatic acid gas consists of chlorine and hydrogen, united in equal volumes. This view of its nature was originally given by Scheele, though obscured by terms derived from the vague and visionary hypothesis of phlogiston. The Lavoisierian school afterwards introduced the belief that muriatic acid gas was a compound of an unknown radical and water; and that chlorine consisted of this radical and oxygen. Sir H. Davy has the distinguished glory of refuting this hypothesis, and of proving, by decisive experiments, that in the present state of our knowledge chlorine must be regarded as a simple substance; and the muriatic acid gas as a compound of it with hydrogen. This gaseous acid unites rapidly, and in large quantity, with water. At the temperature of 40° Fahrenheit, water absorbs about 480 times its bulk of gas, and forms solution of muriatic acid gas in water, the specific gravity of which is 1.2109. The heat produced in the condensation of the gas is so great, that it melts ice almost as rapidly as the steam of boiling water. Hence also, in passing the gas from the beak of a retort into a Woolfe's apparatus containing water to be impregnated, it is necessary to surround the bottles with cold water or ice, if we wish a considerable condensation to take place.

The following table of the specific gravity and consequent strength of the various combinations of this acid gas with water, to form the acid of commerce, is given by Dr. Ure in his excellent Dictionary of Chemistry.

Acid of 1·20 in 100.	Specific Gravity	Chlo-rine.	Muria-tic Gas.	Acid of 1·20 in 100.	Specific Gravity	Chlo-rine.	Muria-tic Gas.	Acid of 1·20 in 100.	Specific Gravity	Chlo-rine.	Muria-tic Gas.
100	1·2000	39·675	40·777	66	1·1328	26·186	26·913	32	1·0637	12·697	13·049
99	1·1982	39·278	40·369	65	1·1308	25·789	26·505	31	1·0617	12·300	12·641
98	1·1964	38·882	39·961	64	1·1287	25·392	26·098	30	1·0597	11·903	12·233
97	1·1946	38·485	39·554	63	1·1267	24·996	25·690	29	1·0577	11·506	11·825
96	1·1928	38·089	39·146	62	1·1247	24·599	25·282	28	1·0557	11·109	11·418
95	1·1910	37·692	38·738	61	1·1226	24·202	24·874	27	1·0537	10·712	11·010
94	1·1893	37·296	38·330	60	1·1206	23·805	24·466	26	1·0517	10·316	10·602
93	1·1875	36·900	37·923	59	1·1185	23·408	24·058	25	1·0497	9·919	10·194
92	1·1857	36·503	37·516	58	1·1164	23·012	23·650	24	1·0477	9·522	9·786
91	1·1846	36·107	37·108	57	1·1143	22·615	23·242	23	1·0457	9·126	9·379
90	1·1822	35·707	36·700	56	1·1123	22·218	22·834	22	1·0437	8·729	8·971
89	1·1802	35·310	36·292	55	1·1102	21·822	22·426	21	1·0417	8·332	8·563
88	1·1782	34·913	35·884	54	1·1082	21·425	22·019	20	1·0397	7·935	8·155
87	1·1762	34·517	35·476	53	1·1061	21·028	21·611	19	1·0377	7·538	7·747
86	1·1741	34·121	35·068	52	1·1041	20·632	21·203	18	1·0357	7·141	7·349
85	1·1721	33·724	34·660	51	1·1020	20·235	20·796	17	1·0337	6·745	6·932
84	1·1701	33·328	34·252	50	1·1000	19·837	20·388	16	1·0318	6·348	6·524
83	1·1681	32·931	33·845	49	1·0980	19·440	19·980	15	1·0298	5·951	6·116
82	1·1661	32·535	33·437	48	1·0960	19·044	19·572	14	1·0279	5·554	5·709
81	1·1641	32·136	33·029	47	1·0939	18·647	19·165	13	1·0259	5·158	5·301
80	1·1620	31·746	32·621	46	1·0919	18·250	18·757	12	1·0239	4·762	4·893
79	1·1599	31·343	32·213	45	1·0899	17·854	18·349	11	1·0220	4·365	4·486
78	1·1578	30·946	31·805	44	1·0879	17·457	17·941	10	1·0200	3·968	4·078
77	1·1557	30·550	31·398	43	1·0859	17·060	17·534	9	1·0180	3·571	3·670
76	1·1536	30·153	30·990	42	1·0838	16·664	17·126	8	1·0160	3·174	3·262
75	1·1515	29·757	30·582	41	1·0818	16·267	16·718	7	1·0140	2·778	2·854
74	1·1494	29·361	30·174	40	1·0798	15·870	16·310	6	1·0120	2·381	2·447
73	1·1473	28·964	29·767	39	1·0778	15·474	15·902	5	1·0100	1·984	2·039
72	1·1452	28·567	29·359	38	1·0758	15·077	15·494	4	1·0080	1·588	1·631
71	1·1431	28·171	28·951	37	1·0738	14·680	15·087	3	1·0060	1·191	1·224
70	1·1410	27·772	28·544	36	1·0718	14·284	14·679	2	1·0040	0·795	0·816
69	1·1389	27·376	28·136	35	1·0697	13·887	14·271	1	1·0020	0·397	0·468
68	1·1369	26·979	27·728	34	1·0677	13·490	13·863				
67	1·1349	26·583	27·321	33	1·0657	13·094	13·456				

The muriatic acid is one of those longest known, and some of its compounds are among those salts with which we are most familiar. The muriates, when in a state of dryness, are actually chlorides, consisting of chlorine and the metal; yet they may be conveniently treated of under the title muriates.

The *muriate of barytes* crystallises in tables bevelled at the edges, or in octahedral pyramids applied base to base. It is soluble in five parts of water at 60°, in still less at a boiling heat, and also in alcohol. It is not altered by the air, and but partly decomposed by heat. The sulphuric acid separates its base; and the alkaline carbonates and sulphates decompose it by double affinity. It is best prepared by dissolving carbonate of barytes in dilute muriatic acid; and if contaminated with iron or lead, which occasionally happens, these may be separated by the addition of a small quantity of liquid ammonia, or by boiling and stirring the solution with a little barytes. Mr. Goetting recommends to prepare it from the sulphate of barytes; eight parts of which in fine powder are to be mixed with two of muriate of soda, and one of charcoal powder. This is to be pressed hard into a Hessian crucible, and exposed for an hour and a half to a red heat in a wind furnace. The cold mass, being powdered, is to be boiled a minute

or two in sixteen parts of water, and then filtered. To this liquor muriatic acid is to be added by little and little, till sulphureted hydrogen ceases to be evolved; it is then to be filtered, a little hot water to be poured on the residuum, the liquor evaporated to a pellicle, filtered again, and then set to crystallise. As the muriate of soda is much more soluble than the muriate of barytes, and does not separate by cooling, the muriate of barytes will crystallise into a perfectly white salt, and leave the muriate of soda in the mother water, which may be evaporated repeatedly till no more muriate of barytes is obtained. This salt was first employed in medicine by Dr. Crawford, chiefly in serofulous complaints and eaneer, beginning with doses of a few drops of the saturated solution twice a-day, and increasing it gradually, as far as forty or fifty drops in some instances. In large doses it excites nausea, and has deleterious effects. Fourcroy says it has been found very successful in scrofula in France. It has likewise been recommended as a vermifuge; and it has been given with much apparent advantage even to very young children, where the usual symptoms of worms occurred, though none were ascertained to be present. As a test of sulphuric acid it is of great use.

The *muriate of potash*, formerly known by the

names of febrifuge salt of Sylvius, digestive salt, and regenerated sea-salt, crystallises in regular cubes, or in rectangular parallelepipeds; deprecipitating on the fire, without losing much of their acid, and acquiring a little moisture from damp air, and giving it out again in dry. Their taste is saline and bitter. They are soluble in thrice their weight of cold water, and in but little less of boiling water, so as to require spontaneous evaporation for crystallising. Fourcroy recommends to cover the vessel with gauze, and suspend hairs in it, for the purpose of obtaining regular crystals.

It is decomposable by the sulphuric and nitric acids. Barytes decomposes it, though not completely. And both silex and alumina decomposed it partially in the dry way. It decomposes the earthy nitrates, so that it might be used in salt-petre manufactories to decompose the nitrate of lime.

Muriate of soda, or common salt, is of considerable use in the arts, as well as a necessary ingredient in our food. It crystallises in cubes, which are sometimes grouped together in various ways, and not unfrequently form hollow quadrangular pyramids. In the fire it decrepitates, melts, and is at length volatilised. When pure it is not deliquescent. One part is soluble in two and a half of cold water, and in little less of hot, so that it cannot be crystallised but by evaporation. According to M. Cheuvreux, it is soluble in alcohol also, particularly when it is mixed with the chlorate.

Common salt is found in large masses, or in rocks under the earth, in England and elsewhere. In the solid form it is called sal gem, or rock salt. If it be pure and transparent, it may be immediately used in the state in which it is found; but, if it contain any impure earthy particles, it should be previously freed from them. In some countries it is found in incredible quantities, and dug up like metals from the bowels of the earth. In this manner has this salt been dug out of the celebrated salt mines near Bochnia and Wieliczka, in Poland, ever since the middle of the thirteenth century, consequently above these 500 years, in such amazing quantities, that sometimes there have been 20,000 tons ready for sale. In these mines, which are said to reach to the depth of several hundred fathoms, 500 men are constantly employed. The pure and transparent salt needs no other preparation than to be beaten to small pieces, or ground in a mill. But that which is more impure must be elutriated, purified, and boiled. That which is quite impure, and full of small stones, is sold under the name of rock salt, and is applied to ordinary uses; it may likewise be used for strengthening weak and poor brine-springs.

Though the salt-mines of Wieliczka, near Cracow in Poland, have long astonished the philosopher and traveller, yet it deserves to be remarked, that the quantity of rock salt obtained from the mines of Northwich is greatly superior to that obtained at Cracow. The bishop of Llandaff affirms, that a single pit, into which he descended, yielded at a medium 4000 tons of salt in a year, which alone is about two-thirds of

that raised in the Polish mines. This rock salt is never used on our tables in its crude state, as the Polish rock salt is; and, though the pure transparent salt might be used with our food without any danger, yet it is prohibited under a penalty of forty shillings for every pound of rock salt so applied. It is partly purified in water, and a great part of it is sent to Liverpool, and other places, where it is used either for strengthening brine-springs or sea water.

Beside the salt mines here mentioned, where the common salt is found in a concrete state, under the name of rock salt, there is at Cordova, in the province of Catalonia in Spain, a remarkable solid mountain of rock salt: this mountain is between 400 and 500 feet in height, and a league in circuit; its depth below the surface of the earth is not known. This mountain contains the rock salt without the least admixture of any other matter.

The waters of the ocean every where abound with common salt, though in different proportions. The water of the Baltic Sea is said to contain one sixty-fourth of its weight of salt; that of the sea between England and Flanders contains one thirty-second part; that on the coast of Spain one-sixteenth part; and between the tropics it is said, erroneously, to contain from an eleventh to an eighth part.

The water of the sea contains, besides the common salt, a considerable proportion of muriate of magnesia, and some sulphate of lime, of soda, and potash. The former is the chief ingredient of the remaining liquid which is left after the extraction of the common salt, and is called the mother water. Sea water, if taken up near the surface, contains also the putrid remains of animal substances, which render it nauseous, and in a long continued calm cause the sea to stink.

The whole art of extracting salt from waters which contain it consists in evaporating the water in the cheapest and most convenient manner. In England, a brine composed of sea water, with the addition of rock salt, is evaporated in large shallow iron boilers; and the crystals of salt are taken out in baskets. In Russia, and probably in other northern countries, the sea water is exposed to freeze; and the ice, which is almost entirely fresh, being taken out, the remaining brine is much stronger, and is evaporated by boiling. In the southern parts of Europe the salt-makers take advantage of spontaneous evaporation. A flat piece of ground near the sea is chosen, and banked round, to prevent its being overflowed at high water. The space within the banks is divided by low walls into several compartments, which successively communicate with each other. At flood tide, the first of these is filled with sea water; which, by remaining a certain time, deposits its impurities, and loses part of its aqueous fluid. The residue is then suffered to run into the next compartment; and the former is again filled as before. From the second compartment, after a due time, the water is transferred into a third, which is lined with clay well rammed and levelled. At this period the evaporation is usually brought to that degree, that a crust of salt is formed on the surface of the water, which the

workmen break, and it immediately falls to the bottom. They continue to do this until the quantity is sufficient to be raked out, and dried in heaps. This is called bay salt.

In some parts of France, and also on the coast of China, they wash the dried sands of the sea with a small proportion of water, and evaporate this brine in leaden boilers.

There is no difference between this salt and the lake salt extracted from different lakes, excepting such as may be occasioned by the casual intervention of some substances. In this respect the Jeltonic salt water lake, in the Russian dominions, near Saratow and Dmitrewsk, deserves our attention. In the year 1748, when the Russians first fetched salt thence, the lake was almost solid with salt; and that to such a degree, that they drove their heavy waggons over it, as over a frozen river, and broke up the salt. But since the year 1757 the water has increased so much, that at this time it is nothing more than a lake very strongly impregnated with salt. The Jeltonic lake salt contains at the same time alum and sulphate of magnesia.

At several places in Germany, and at Montmarot in France, the waters of salt springs are pumped up to a large reservoir at the top of a building or shed; from which it drops or trickles through small apertures upon boards covered with brush-wood. The large surface of the water thus exposed to the air causes a very considerable evaporation; and the brine is afterwards conveyed to the boilers for the perfect separation of the salt.

To free common salt from those mixtures that render it deliquescent, and less fit for the purposes to which it is applied, it may be put into a conical vessel with a small aperture at the point, and a saturated solution of the muriate of soda boiling hot be poured on it. This solution will dissolve and carry off any other salts mixed with the soda, and leave it quite pure, by repeating the process three or four times.

From this salt, as already observed, the muriatic acid is extracted; and of late years to obtain its base separate, in the most economical mode, for the purposes of the arts, has been an object of research. The process of Scheele, which consists in mixing the muriate of soda with red oxide of lead, making this into a soft paste with water, and allowing it to stand thus for some time, moistening it with water as it gets dry, and then separating the soda from the muriate of lead by lixiviation, has been resorted to in this country. Mr. Turner some years ago had a patent for it; converting the muriate of lead into a pigment, which was termed mineral or patent yellow, by heating it to fusion. The oxide of lead should be at least twice the weight of the salt. This would have answered extremely well, had there been an adequate and regular demand for the pigment. At present, we understand, the greater part of the carbonate of soda in the market is furnished by decomposing the sulphate of soda left, after the muriatic acid is expelled in the usual way of manufacturing it from common salt. Various processes for this purpose were tried in France, and made public by the French government, all depending on the principle of

decomposing the acid of the sulphate by charcoal, and at the same time adding some other material to prevent the soda from forming a sulphuret. What they consider as the best is to mix the sulphate of soda with an equal weight of chalk, and rather more than half its weight of charcoal powder, and to expose the mixture in a reverberatory furnace to a heat sufficient to bring them to a state of imperfect liquefaction. Much of the sulphur formed will be expelled in vapor and burned, the mixture being frequently stirred to promote this; and this is continued till the mass on cooling assumes a fine grain. It is then left exposed to a humid atmosphere, and the carbonate of soda may be extracted by lixiviation, the sulphur not consumed having united with the lime. Tinmen's shreds, or old iron, may be employed instead of chalk, in the proportion of sixty-five parts to 200 of sulphate of soda, and sixty-two of charcoal; or chalk and iron may be used at the same time in different proportions. The muriate of soda might be decomposed in the first instance by the sulphate of iron, instead of the sulphuric acid. The carbonate of soda thus prepared, however, is not free from sulphur; and Dizé recommends the abstraction of it by adding litharge to the lixivium in a state of ebullition, which will render the alkali pure. Oxide of manganese was substituted in the same way with equal success; and this may be used repeatedly, merely by calcining it after each time, to expel the sulphur.

Mr. Accum gives the following method, as having answered extremely well in a soda manufactory in which he was employed:—500 lbs. of sulphate of soda, procured from the bleachers, who make a large quantity in preparing their muriatic acid from common salt, were put into an iron boiler with a sufficient quantity of soft water. Into another boiler were put 560 lbs. of good American potassa, or 570 if the potassa was indifferent, dissolved in about thirty pails of water, or as little as possible. When both were brought to boil, the solution of potassa was ladled into that of sulphate of soda, agitating the mixture, and raising the fire as quickly as possible. When the whole boiled, it was ladled into a wooden gutter, that conveyed it to a wooden cistern lined with lead nearly half an inch thick, in a cool place. Sticks were placed across the cistern, from which slips of sheet lead, two or three inches wide, hung down into the fluid about four inches distant from each other. When the whole was cold, which in winter was in about three days, the fluid was drawn off, the crystallised salt was detached from the slips of lead, and the rock of salt fixed to the bottom was separated by a chisel and mallet. The salt being washed in the same cistern, to free it from impurities, was then returned to the boiler, dissolved in clear water, and evaporated till a strong pellicle formed. Letting it cool till the hand could be dipped in, it was kept at this temperature as long as pellicles would form over the whole surface, and fall to the bottom. When no more pellicles appeared without blowing on the surface, the fire was put out, and the solution returned into the cistern to crystallise. If the solution be suffered to cool pretty low, very little

sulphate of potassa will be found mixed with the soda; but the rocky masses met with in the market generally contain a pretty large quantity. In the process above described, the produce of the mixed salt from 100 lbs. of sulphate of soda was in general from 136 to 139 lbs.

Beside its use in seasoning our food, and preserving meat both for domestic consumption and during the longest voyages, and in furnishing us with the muriatic acid and soda, salt forms a glaze for coarse pottery, by being thrown into the oven where it is baked; it improves the whiteness and clearness of glass; it gives greater hardness to soap; in melting metals it preserves their surface from calcination, by defending them from the air, and is employed with advantage in some assays; it is used as a mordant, and for improving certain colors, and enters more or less into many other processes of the arts.

The *muriate of strontian* has not long been known. Dr. Hope first distinguished it from muriate of barytes. It crystallises in very slender hexagonal prisms, has a cool pungent taste, without the austerity of the muriate of barytes, or the bitterness of the muriate of lime; is soluble in 0.75 of water at 60°, and to almost any amount in boiling water; is likewise soluble in alcohol, and gives a blood-red color to its flame.

It has never been found in nature, but may be prepared in the same way as the muriate of barytes.

The *muriate of lime* has been known by the names of marine selenite, calcareous marine salt, muria, and fixed sal ammoniac. It crystallises in hexahedral prisms terminated by acute pyramids; but if the solution be greatly concentrated, and exposed to a low temperature, it is condensed in confused bundles of needly crystals. Its taste is acrid, bitter, and very disagreeable. It is soluble in half its weight of cold water, and by heat in its own water of crystallisation. It is one of the most deliquescent salts known; and when deliquescent has been called oil of lime. It exists in nature, but neither very abundantly nor very pure. It is formed in chemical laboratories, in the decomposition of muriate of ammonia; and Homborg found, that if it was urged by a violent heat till it condensed, on cooling, into a vitreous mass, it emitted a phosphoric light upon being struck by any hard body, in which state it was called Homborg's phosphorus. Hitherto it has been little used except for frigorific mixtures; and with snow it produces a very great degree of cold. Fourcroy, indeed, says he has found it of great utility in obstructions of the lymphatics, and in scrofulous affections.

The *muriate of ammonia* has long been known by the name of sal ammonia, or ammoniac. It is found native in the neighbourhood of volcanoes, where it is sublimed sometimes nearly pure, and in different parts of Asia and Africa. A great deal is carried annually to Russia and Siberia from Bucharian Tartary; and we formerly imported large quantities from Egypt, but now manufacture it at home. See AMMONIA. This salt is usually in the form of cakes, with a convex surface on one side, and concave on the other, from being sublimed into large globular

vessels; but by solution it may be obtained in regular quadrangular crystals. It is remarkable for possessing a certain degree of ductility, so that it is not easily pulverisable. It is soluble in three parts and a half of water at 60°, and in little more than its own weight of boiling water. Its taste is cool, acrid, and bitterish. Its specific gravity is 1.42. It attracts moisture from the air but very slightly.

Muriate of ammonia has been more employed in medicine than it is at present. It is sometimes useful as an auxiliary to the bark in intermittents; in gargles it is beneficial, and externally it is a good discutient. In dyeing it improves or heightens different colors. In tinning and soldering it is employed to preserve the surface of the metals from oxidation. In assaying it discovers iron, and separates it from some of its combinations.

The *muriate of magnesia* is extremely deliquescent, soluble in an equal weight of water, and difficultly crystallisable. It dissolves also in five parts of alcohol. It is decomposable by heat, which expels its acid. Its taste is intensely bitter. With ammonia this muriate forms a triple salt, crystallisable in little polyhedrons, which separate quickly from the water, but are not very regularly formed. Its taste partakes of that of both the preceding salts. The best mode of preparing it is by mixing a solution of twenty-seven parts of muriate of ammonia with a solution of seventy-three of muriate of magnesia; but it may be formed by a semi-decomposition of either of these muriates by the base of the other. It is decomposable by heat, and requires six or seven times its weight of water to dissolve it.

Of the *muriate of glucine* we know but little. It appears to crystallise in very small crystals; to be decomposable by heat; and, dissolved in alcohol and diluted with water, to form a pleasant saccharine liquor.

Muriate of alumina is scarcely crystallisable, as on evaporation it assumes the state of a thick jelly. It has an acid, styptic, acrid taste. It is extremely soluble in water, and deliquescent. Fire decomposes it. It may be prepared by directly combining the muriatic acid with alumina, but the acid always remains in excess.

The *muriate of zircon* crystallises in small needles, which are very soluble, attract moisture, and lose their transparency in the air. It has an austere taste, with somewhat of acrimony. It is decomposable by heat. The gallic acid precipitates from its solution, if it be free from iron, a white powder. Carbonate of ammonia, if added in excess, redissolves the precipitate it had before thrown down.

Muriate of yttria does not crystallise when evaporated, but forms a jelly; it dries with difficulty, and deliquesces.

Fourcroy observes, that when siliceous stones, previously fused with potassa, are treated with muriatic acid, a limpid solution is formed, which may be reduced to a transparent jelly by slow evaporation. But a boiling heat decomposes the siliceous muriate, and the earth is deposited. The solution is always acid. See SALT, CHEMISTRY, and CHLORINE.

MURIATIC ACID OXYGENATED. See **CHLORINE**.

MURILIO (Bartholemew-Stephen,) a celebrated painter, born at Pilas near Seville, in 1613. He was instructed by his uncle John del Castillo, an artist of some note; but his principal knowledge of the art was derived from Velasquez. Some say that he studied at Rome; but Velasco, a Spanish author, affirms that he never was in Italy, but arrived at excellence by copying the works of Titian, Rubens, and Vanduyck, in Madrid and the Escurial. He was employed by the king of Spain to execute several historical pictures, which being afterwards sent to Rome, as a present to the pope, the Italians were so much pleased, that they styled him a second Paul Veronese. He designed and finished several grand altar-pieces, for the churches at Madrid, Seville, Cordova, Cadiz, Granada, and Flanders. His favorite subjects were beggar boys, as large as life. His original pictures have great merit, and are admitted into the most capital collections. He died in 1685.

MURK, *n. s.* } Dan. *morck*, dark. Dark-
MURKY, *adj.* } ness; want of light.

Ere twice in *murk*, and occidental damp,
Moist Hesperus hath quenched his sleepy lamp.

Shakspeare.

The *murkiest* den,
The most opportune place, the strongest suggestion,
Shall never melt mine honour into lust. *Id.*

So scented the grim feature, and up-turned
His nostrils wide into the *murky* air,
Sagacious of his quarry.

Milton's Paradise Lost.

A *murky* storm deep lowering o'er our heads
Hung imminent, that with impervious gloom
Opposed itself to Cynthia's silver ray. *Addison.*

Nature gladdening and adorning;
Such to me my lovely maid.

When absent frae my fair,
The *murky* shades o' care

With starless gloom o'ercast my sullen sky.

Burns.

Her hair was dripping, and the very balls
Of her black eyes seemed turned to tears and *murk*.
The sharp rocks looked below each drop they caught,
Which froze to marble as it fell, she thought.

Byron.

MURMUR, *n. s. & v. n.* } Fr. *murmure*; Lat.
MURMURER, *n. s.* } *murmur*. A low suppressed tone of the voice; a half-uttered complaint: to utter such sound or complaint.

The *murmuring* surge,
That on the' unnumbered idle pebbles chafes,
Can scarce be heard so high.

Shakspeare. King Lear.

Heaven's peace with him!

That's christian care enough; for living *murmurers*
There's places of rebuke. *Id. Henry VIII.*

Flame, as it moveth within itself, or is blown by a
bellows, giveth a *murmur* or interior sound.

Bacon's Natural History.

Some discontents there are; some idle *murmurs*;
—How idle *murmurs*!

—The doors are all shut up; the wealthier sort,
With arms across, and hats upon their eyes,
Walk to and fro before their silent shops. *Dryden.*

The busy bees, with a soft *murmuring* strain,
Invite to gentle sleep the labouring swain. *Id.*

The good we have enjoyed from heaven's free will;
And shall we *murmur* to endure the ill! *Id.*

The *murmurer* is turned off to the company of those
doleful creatures which were to inhabit the ruins of
Babylon. *Government of the Tongue.*

Still might the discontented *murmurer* cry,
Ah, hapless fate of man! Ah wretch, doomed once
to die! *Blackmore on the Creation.*

Murmur not at your sickness, for thereby you will
sin against God's providence. *Wike.*

When the winged colonies first tempt the sky,
Or, setting, seize the sweets the blossoms yield,
Then a low *murmur* runs along the field. *Pope.*

Amid an isle around whose rocky shore

The forests *murmur*, and the surges roar,
A goddess guards in her enchanted dome. *Id.*

The good consequences of this scheme, which will
execute itself without *murmuring* against the govern-
ment, are very visible. *Swift.*

Flow gently, sweet Afton, among thy green braes,
Flow gently, I'll sing thee a song in thy praise;
My Mary's asleep by thy *murmuring* stream,
Flow gently, sweet Afton, disturb not her dream.

Burns.

MUROM, a town in the government of Vla-
dimir, in the central part of European Russia.
It stands at the confluence of the Muromka and
Oka, and has a brisk trade. It is built of wood;
and in 1805 eighty houses were destroyed by
fire. Inhabitants 6500. Sixty-two miles E. S. E.
of Vladimir.

MURPHY (Artlur), an ingenious miscella-
neous writer, was born at Clooniquin, in the
county of Roscommon, in 1727. He lost his
father early in life; but his mother gave him a
good education at St. Omer's, from whence he
returned in 1744, and was placed in the counting-
house of an uncle at Cork, which he soon
quitted; and, in 1751, came to London, and
began The Gray's Inn Journal. He also made
an attempt on the stage, but failed; after which
he turned his attention to the law, and, though
refused admittance in the Temple, was called to
the bar at Lincoln's Inn, in 1762. His chief
dependence, however, was upon his literary ex-
ertions. His Grecian Daughter, a tragedy; All
in the Wrong; and The Way to keep Him, com-
edies; with the smaller pieces of The Citizen,
The Old Maid, and Three Weeks after Marriage,
still hold their place among acting plays. Mr.
Murphy was likewise a political writer, and
author of The Test, and the Auditor, papers in
favor of lord Bute against Wilkes. He also
wrote an Essay on the Life of Fielding, for an
edition of that author's works. In 1792 he
published An Essay on the Life and Genius of
Dr. Johnson; and the year following his Trans-
lation of Tacitus, in 4 vols., 4to. In 1798 he
printed a dramatic poem, entitled Arminius;
and a Life of Garrick. Lord Loughborough
appointed him a commissioner of bankrupts;
and he also obtained a pension from the crown.
He died in 1805; after his death was published
his translation of Sallust.

MURRAIN, *n. s.* Sax. *moppina*. There is
also a Fr. *marrane*, a pining melancholy. Low
Lat *muriana*. Skinner derives it from *mori*, to
die. The plague in cattle.

MURRAIN, or gargle, is a contagious disease
incident to cattle. The symptoms are, a hanging
down and swelling of the head, abundance of
gum in the eyes, a rattling in the throat, a short
breath, palpitation at the heart, staggering, a hot

breath, and a shining tongue. To prevent this disease, the cattle should stand cool in summer, and have plenty of good water. All carrion should be speedily buried; and as the feeding of cattle in wet places, on rotten grass and hay, often occasions this disease, dry and sweet fodder should be given them.

MURRAY, a county of Australia, in New South Wales, bounded on the north-east by Boro Creek from its junction with the Shoalhaven river to its source in the hill of Wolowolar: by the range thence to Alianoyonyiga Mountain, between Lake George and Lake Bathurst, and by a watercourse descending from that mountain to Lake George; by Lake George to the hollow in the bight, near the middle of its western shore; and thence by a natural line, extending towards the Pie of Pabral: on the west by the mountains of Warragong; on the south by a range extending eastward from Mount Murray by the Twins, and a line east these Pies to the Shoalhaven river. On the east by the Shoalhaven river to the junction of Boro Creek, mentioned before.

MURRAY (James, earl of), a natural son of king James V., by a daughter of the earl of Mar, was born in 1529. He was created earl of Murray by queen Mary, to whom he made not the most grateful return. In 1567 he was appointed regent of Scotland, in the minority of king James VI.; but was shot in Linlithgow by one Hamilton, in 1571. See SCOTLAND.

MURRAY (William), earl of Mansfield, the fourth son of David, earl of Stormont, was born at Perth, in 1705. He was educated at Westminster, and studied at Christ Church, Oxford, where he took his degrees. He afterwards travelled, and on his return entered at Lincoln's Inn, and in due course was called to the bar, where he soon distinguished himself by his abilities as an advocate. On the 20th November, 1738, he married lady Elizabeth Finch, daughter of lord Winchelsea. In 1742 he was appointed solicitor-general, and elected M. P. for Borough-bridge. In 1754 he was appointed attorney-general, and in 1756 lord chief justice of the King's Bench, in the practice of which court he made many improvements. He was soon after created baron Mansfield. In 1757 he was appointed chancellor of the exchequer. In 1776 he was created earl of Mansfield. In 1780, when London was a scene of anarchy, his lordship's house in Bloomsbury Square was burnt by a lawless mob; his valuable library and MSS. annihilated, and even his person endangered. See ENGLAND. A resolution of the house of commons was passed to make him a compensation for his loss; but he generously refused to accept of any. Indeed, no pecuniary recompense could make up for the loss of so great a man's MSS., either to him or to the republic of letters. In June 1788 he was obliged by the infirmities of age to resign his office; on which occasion he received a most respectful address from the gentlemen of the bar, transmitted to him in their name by the honorable Thomas Erskine. He died March 20th, 1793, aged eighty-nine, and his remains lie interred in Westminster Abbey, between those of the earl of

Chatham and lord Robert Manners. As he died without issue, his titles and fortune descended to his nephew, the earl of Stormont.

MURRAY (Richard), D. D., provost of Trinity College, Dublin, was born in 1726. After the usual course of study, he became a fellow of Trinity College about 1748, and was afterwards appointed professor of mathematics; in which office he displayed uncommon abilities as a teacher. There was a simplicity, precision, and clearness in his method, by which he conveyed his ideas, even on the difficult and abstract science of analytics, with the greatest ease and accuracy; while the comprehensive view which he exhibited, of every branch of mathematics, proved him to possess a most vigorous understanding. He was afterwards promoted to the provostship, by earl Fitzwilliam, with the approbation of the whole University. From his abilities and length of standing, as well as from his offices, he was considered as the father of the University; in which he always preserved the most perfect concord, which his predecessors had failed to do. He published an *Epitome of Logic*, which is much esteemed. He was so constantly devoted to study, that he never married. Though his income exceeded his expenses by at least £500 a-year, and during the last four years had £3000 a-year, yet his private charities were so numerous, that he did not leave above £4000 at his death. He died at Dublin of a spasmodic affection in his stomach, on Tuesday, June 20, 1799, aged seventy-three.

MURRAY (Alexander), D. D., professor of Hebrew in the university of Edinburgh, was born in Kirkcudbright, October 1775. Of a feeble bodily constitution, and in a residence far from the parochial school, he enjoyed the benefit of a teacher not more than two years; but an early maturity of genius, joined to ardent application and unwearied perseverance, overcame every obstacle, and raised him to a very high rank in the literary world. Even in his juvenile days, while actively employed in the pastoral life, young Murray gave proofs of a poetical genius, and gained an intimate acquaintance with many of the best English authors. He had made great progress, during this period, in the acquisition of languages; insomuch, that at the age of seventeen he was able to translate, with accuracy and without premeditation, the Hebrew language, before he ever heard a word of it pronounced.—On account of his humble station, and the early death of his father, Mr. Murray had little prospect of advancement; but Mr. Maitland, who knew his worth and watched his progress, patronised him, and stimulated his exertions. He sent him, in 1793, to the university of Edinburgh, and recommended him strongly to Dr. Baird, the principal of that university; who, astonished at the richness of his genius, and the extent of his acquirements, with a generosity worthy of himself, took the young student under his particular care, and continued to the end of his life his warm, zealous, and steady friend. In Mr. Murray's course through the various literary classes, and by his theological exercises, he greatly distinguished himself; and the variety of his information and the splendor of his talents pro-

cured him an acquaintance extensive, learned, and respectable. During his attendance at the university, he supported himself in a respectable manner by teaching Latin, Greek, and some of the eastern languages. He was employed for a considerable time as corrector of a press; and by Mr. Constable as editor of the Scots Magazine, in which were inserted some of his own original essays and poetical pieces. In both these engagements he acquitted himself to the complete satisfaction of his employers. His knowledge of languages, and his talents as a critic, being now conspicuous, he was again employed by Mr. Constable in editing the travels, and writing a life of the celebrated Mr. Bruce. Mr. Murray, having been licensed by the presbytery of Edinburgh, accepted a presentation, and was ordained minister of Urr, in 1806; and in 1808 married a young lady whom he had long known and loved, who brought him a son and daughter, and to whom the government, after his death, granted a liberal annuity. Having obtained a slight knowledge of the Ethiopic alphabet in his youth, and prosecuting the study at college by the help of Ludolph's dictionary and the Polyglot Bible, Mr. Murray acquired a complete acquaintance with that ancient language. In consequence of this, which his edition of Bruce's Travels made manifest, he was requested to translate a letter in the Ethiopic tongue from the king of Abyssinia to our government. The accuracy and despatch with which he executed the commission added to his reputation, and laid the foundation of his future advancement; for on the death of the Rev. D. Moodie, in the following year, 1812, all eyes were turned upon Dr. Murray; and, although there was a strong contest between his friends and those of a respectable competitor, yet he was instituted professor of Hebrew and oriental languages in the university of Edinburgh. In the autumn following his appointment he prepared lectures for his class, and a syllabus, entitled *Outlines of Oriental Philosophy*, which was published in December following. He commenced his course with great brilliancy; and his introductory lectures, which were highly appropriate and ingenious, were received with much applause by a class consisting not only of theological students, but of many gentlemen whose attendance was commanded by the character and talents of the teacher. But his great exertions overpowered him; his spirits sunk at the prospect of having more to do than his feeble frame and impaired health were able to accomplish. An hereditary asthmatic affection, which severe study increased, now rose to an alarming height, and finally hurried him from the scene of his labors on the 15th of April 1813, at the early age of thirty-seven. The talents of Dr. Murray entitled him to an elevated rank among literary characters. His knowledge of philology was most extensive and profound; and all his works show great ingenuity, strong judgment, and deep penetration. His principal work, *The History of European Languages*, though a posthumous publication, for erudition, originality, and accuracy, will entitle its author to the unqualified praise of the present day, and will procure him the respect and gratitude of fu-

ture ages. Besides his essays in the Scots magazine, already mentioned, Dr. Murray wrote several ingenious and learned articles in the *Edinburgh Review*, with some poems on important subjects.

MURRAY (Lindley), an ingenious grammarian and didactic writer, was born in 1745, at Swefara, in Pennsylvania, North America. His father, a member of the society of Friends, was the proprietor of a flour-mill there; but, becoming in 1753 a merchant at New York, it was his earnest wish to bring up his son to his own pursuits; but after receiving a good education he was allowed to study the law, and was admitted a member of the American bar. He soon after married: and, though his practice as a lawyer was at first considerable, it received an interruption from a visit which he paid to England: but on his return to New York, in 1771, he resumed it with success. On the commencement of the disputes with the mother country, Mr. Murray, whose religion prevented his taking an active part in the struggle, retired to Islip, in Long Island, where he employed the leisure which he possessed in an unsuccessful attempt to manufacture salt. The bar holding out, at this period, but little prospect, he became, like his father, a general merchant, and, about the period of the establishment of American independence, found himself enabled to retire from business with a competency. But his health had received a severe shock, and, the air of Yorkshire being especially recommended to him, he was induced to take a second voyage to England. At Holdgate, a village of that county, he found a small estate which exactly suited his wishes, and continued to reside upon it till his death. For many years all exercise, with the exception of airings in his carriage, was too severe for his shattered frame; his mind, however, continued in full vigor, and his protracted confinement was much alleviated by the composition of various instructive works. The first was a tract entitled *The Power of Religion on the Mind*, of which he printed and distributed gratuitously 500 copies, till the popularity which it obtained induced him to make a present of the copyright to Messrs. Longmans' booksellers, under whose auspices it ran through no fewer than seventeen editions. His next work, and that by which he is best known, was his *English Grammar*, published in a small form, 1795, and succeeded by his *English Exercises*, and *Key*, calculated to correspond with, and illustrate the *Grammar*, an abridgment of which treatises was, in 1797, published in conjunction. His other works are, *The English Reader*, with an Introduction and Sequel, subsequently composed; two compilations, on the same plan, in the French language, *Le Lecteur François*, and *Introduction au Lecteur François*; *The English Spelling Book*; a Selection from *Horne's Commentary on the Psalms*; and *The Duty and Benefit of Reading the Scriptures*. Mr. Murray was seized with paralytic affection 10th of January, 1826, which terminated his mortal career on the 16th of February following.

MURRAY'S ISLANDS, three islands of the Eastern Seas, in Torres Straits, between New Guinea and New Holland. The largest is only two

miles long, by something more than one in breadth, and lies high. The two smaller isles seem to be single hills. Captain Flinders saw several Indians here, and thought the islands might contain altogether 700 inhabitants. The natives are of a dark chocolate color, active and muscular men, about the middle size, and of expressive countenances. They go quite naked, with the exception of some ornaments of shell work. These islands were discovered by Edwards, in the Pandora, in the year 1790, who spoke of them as four in number. Long. of the largest, 144° 2' E., lat. 9° 54' S.

MURRAY'S ISLANDS, some small islands on the south-west coast of the county of Kirkcudbright, Scotland, at the mouth of Fleet Bay, eleven or twelve miles N. N. E. of Burrow Head.

MURRAYSHIRE, MORAYSHIRE, or ELGINSHIRE, a county in Scotland. It formerly included part of Inverness, Banff, and Nairn, besides the present county; but the name is now confined to this district, situated between 57° 12' and 57° 43' N. lat., and between 3° 2' and 3° 58' W. long., extending about forty miles from north-east to south-west, and in breadth from eight to fourteen miles in the interior, but upon the coast from seventeen to twenty-three miles. It contains, including its lakes, 480 square miles, or 307,200 English acres, of which only about a third is productive. The county of Moray has the frith of that name on the north, Banffshire on the east, Inverness-shire on the south, and Nairnshire on the west. The river Spey, which, with a few exceptions, separates it from Banffshire, is commonly considered its eastern boundary. On the south it is intersected by a part of Inverness-shire, by which two parishes, Abernethy and Duthil, partly in this county, are detached from the body of it. It is divided into fifteen entire parishes, and contains part of nine parishes more, the rest of which are situated in the counties adjacent.

The low grounds along the coast vary in breadth, southward, from five to twelve miles; and the mountains which occupy the interior are diversified by considerable tracts of low land, particularly on the branches of the Spey and Findhorn. The climate, soil, and productiveness of these two divisions of the county are very different. On the coast the climate is supposed to be as good as that of any part of Scotland, in regard both to heat and dryness; and, the prevailing soil being a sandy loam, it in many parts affords plentiful and early crops. The wind blows from westerly points for almost three-fourths of the year. Easterly winds, however, prevail in the spring months, to the injury of vegetation.

Among the mountains the winters are severe; more rain falls than on the coast; and the labors of the harvest are often not brought to a close

till the crops are covered with snow. Limestone, sandstone, and slate, with marl, abound here. The rivers are the Spey, the Lossie, and the Findhorn. The Spey has a course of thirty miles before it enters Morayshire, at Aviemore, from which it flows in a deep channel, and with a considerable fall, till it empties itself, after describing a line of about ninety-six miles in all into the sea at Speymouth Bay. It is only navigable near its mouth, for small vessels; but it affords the means of bringing down to the sea the forests on its banks; and the rents of its salmon fisheries have exceeded £7000 per annum. The Lossie flows parallel to the Spey, about ten miles distant, and after a course of twenty-four miles, during which it works a number of mills, falls into the sea at Lossiemouth, about six miles to the north of Elgin. The Findhorn flows from south to north, and enters the Frith of Moray at the village that bears its name, having traversed Inverness-shire (where it has its source), Nairnshire, and this county, for a distance of sixty miles. There is a valuable salmon fishery on this river. The principal lakes are Loughnaboe, which covers about sixty acres; Lough Spynie, which formerly spread over more than 2000 acres, but has been since almost drained; Inclusive, Lochloy, and Loughnadurb, containing an island on which there are the remains of an ancient fortress. Chalybeate springs are found in every quarter.

The farms on the coast do not often exceed 400 acres in extent, and the greater number are below 150. The larger farms are generally held on leases for nineteen years, but many of the smaller tenants have no lease. This part of the county produces all the species of corn grown in Scotland, turnips, potatoes, and clover. In the higher district, barley and oats, with potatoes, are almost the only crops. The native cattle here have been improved, by crossing them with the West Highland race; and the sheep, originally similar to those of Shetland, have in many parts given way to the Linton, or black-faced race, and other breeds. On the small farms, in the mountain district, the horses are very diminutive.

Murrayshire has few manufactures. There are tanneries at Forres and Elgin; and, at the latter place, a tawing work of some consideration. The chief exports are cattle, corn, and salmon. The value of the salmon has been stated at about £25,000, and that of all the other exports at £30,000 yearly. The towns and villages are, Elgin (the county town), Forres, Garmouth, Urquhart, Lossiemouth, Bishopmill, Findhorn, Rothes, and Balnatoke. The first two are burghs; Elgin is joined with Cullen, Banff, Inverary, and Kintore; and Forres with Inverness, Nairn, and Fortrose, in the election of members of parliament.

1800.

Houses.			Persons.		Occupations.			Total of Persons.
Inhabited.	By how many families occupied.	Uninhabited.	Males.	Females.	Persons chiefly employed in Agriculture.	Persons chiefly employed in Trade, Manufactures, or Handicraft.	All other Persons not comprised in the two preceding classes.	
5992	6354	134	11,763	14,942	8131	4410	14,164	26,705

1811.

Houses.			Persons.		Occupations.			Total of Persons.
Inhabited.	By how many Families occupied.	Uninhabited.	Males.	Females.	Families chiefly employed in Agriculture.	Families chiefly employed in Trade, Manufactures, or Handicraft.	All other Families not comprised in the two preceding classes.	
6268	6854	197	12,401	15,707	2635	1886	2333	28,108

MURRE, *n. s.* Wel. *mouran*. A kind of bird. The sea crow.

Among the first sort we reckon coots, meawes, *murre*s, creysers, and curlews. *Carew*.

MURREY, *adj.* Fr. *morée*; Ital. *morello*, from *moro*, a moor. Darkly red.

Leaves of some trees turn a little *murrey* or reddish. *Bacon*.

Painted glass of a sanguine red, will not ascend in powder above a *murrey*. *Browné's Vulgar Errors*.

They employ it in certain proportions, to tinge their glass both with red colour, or with a purplish or *murrey*. *Boye*.

Cornelius jumps out, a stocking upon his head, and a waistcoat of *murrey*-colored satten upon his body. *Arbuthnot*.

MURRHINA VASA, or **MURRHINE VESSELS**, *Mopriya*, in antiquity, a delicate sort of cups and vases brought from the east, which added not a little to the splendor of the Roman banquets. Critics are divided concerning the nature of the pocula or vasa murrhina, or murrhæa. Some will have them to have been the same with our porcelain or china-ware. The generality hold them to have been made of some precious stone, found chiefly, as Pliny says, in Parthia and Caramania. Arrian tells us, that there was a great quantity of them made at Diospolis in Egypt. This he calls another sort of murrhina work; and it is evident, from all accounts, that the murrhina of Diospolis was a sort of glass ware, made in imitation of the porcelain or murrha of India. Pliny says, the murrhina vasa would not bear hot liquors; but Martial tells us that they bore hot liquors very well. Some suppose them to have been of agate, others of onyx, others of coral. Baronius took them to be made of myrrh, congealed and hardened. Some suppose these ves-

sels to have been made of crystal; but this is contrary to the account of all the ancients. The Greeks had the words *κρυσταλλο* for crystal, and *σmyρνη* for myrrh; and therefore, if these vessels had been made of either of these substances, they would have called them *smyrna* or *crystallina*. On the contrary, the most correct among them call them *murrhina*, *myrrhina*, or *morrina*. The cups made of crystal, which were also used at those times, were called *crystallina*, and these *murrhina* or *murrhæa*, by way of distinction; and Martial says that the stone they were made of was spotted or variegated, calling them *pocula maculosæ murræ*. Statius mentions the crystalline and murrhine cups in the same sentence, but as different things. Arrian mentions also the *λεθος μopriα*; which his interpreters censure as an error of the copies, and would alter into *myrrha*, the name of gum myrrh. Pompey was the first who brought these vessels out of the east which he exhibited in his triumph, and dedicated to Jupiter Capitolinus. But private persons were not long without them. So fond did the Romans grow of them, that a cup which held three sextaries was sold for seventy talents. T. Petronius, before his death, to vex Nero, broke a basin, trulla murrhina, valued at 300 talents, on which that emperor had set his heart.

MURRION, *n. s.* Written also *morion*. Junius derives it from Lat. *murus*. A helmet; a casque; armour for the head. See **MORTON**.

Their beef they often in their *murrions* stewed, And in their basket-hilts their beverage brewed.

King.

MURVIEDRO, or **MORVIEDRO**, the ancient Saguntum, a walled town of Spain, in the province of Valencia, situated at the foot of a mountain of black marble, about a league from the

R

sea. It is long, but narrow. The walls are flanked by round towers, and the interior is gloomy and disagreeable. The houses are of mean appearance, and the streets very narrow; but the suburbs are more agreeable. Here are brandy distilleries; but the chief trade is in oil, wine, wheat, and silk. This town has various remains of antiquity. Celtiberian and Roman inscriptions are frequently discovered; but of the numerous statues of Saguntum only two fragments are to be seen. On the other hand the Roman theatre and circus are in good preservation. On the mountain above the town is the castle erected by the Moors. Population 5100. Thirteen miles north-east of Valencia.

MUS, in zoology, a numerous genus of quadrupeds, belonging to the order of glires, called murine quadrupeds by Mr. Kerr. The characters are these: the upper fore teeth are wedge-shaped; there are three grinders, sometimes though rarely only two, on each side of the jaws; and the clavicles or collar bones are complete.

1. *M. agrarius*, the rustic mouse, is about three inches long, and scarcely weighs half an ounce; the tail is only about half the length of the body and head: the upper part of the body is yellowish, with a dark line along the back; the belly and the legs are white; the head is oblong, with a sharp nose, and small ears lined with fur; the hind legs have each a dusky circle above the foot. They inhabit Russia and Silesia, but are rare in Germany; they are migratory, and wander about in vast multitudes, doing immense injury to the corn. They burrow in the ground, forming a long gallery just below the surface, and a little elevated, leading to a larger chamber, in which considerable quantities of grain and seeds are stored up for winter.

2. *M. alliarius*, the garlic mouse, has a short tail, the ears rather large and somewhat hairy; the body ash-colored on its upper parts, and whitish underneath. The head and body measure somewhat more than four inches, the tail scarcely an inch and a half. This species inhabits Siberia, about the rivers Jenisei, Kan, Lena, and Angara; and feeds on the roots of garlic, laying up large stores in subterraneous burrows.

3. *M. americanus*, the American rat, has a long, naked, and scaly tail: the head is long-shaped, with a narrow pointed nose, the upper jaw being much longer than the lower; the ears are large and naked. It is larger than the black, and smaller than the brown rat; its color is a deep brown, inclining to ash on the belly, and the fur is coarse and harsh. This species is said (Kalm's Travels, ii. 48) to live among the stones and clefts of rocks in the Blue Mountains of Virginia, at a distance from the peopled part of the country. They come out only at night, and make a terrible noise.

4. *M. amphibius*, the water rat, with a long tail; the upper parts of the body are covered with black hair mixed with yellowish, and the under parts ash-colored; the ears scarcely appear above the fur; the feet have three toes each, and the rudiments of a fourth. This species, of which there are several varieties, differing in the toes and in the color, inhabit all Europe, the

north part of Asia as far as the Icy Sea, and North America. They dwell chiefly near waters, forming burrows in their steep banks; about ponds and ditches; likewise in marshy places, meadows, and gardens; feeding on roots, herbs, and shrubs; and on frogs, craw-fish, insects, small fish, and the fry of larger ones. They swim and dive with great facility, and live much in the water. They are very fierce, and bite severely. Their flesh is reckoned very delicate by the savage inhabitants of Russia; and is eaten by the French along with that of the otter, in Lent. The female is smaller than the male, and is yellower; she has eight teats, four of which are placed on the breast, and four on the belly. They procreate about the end of winter, when they smell strongly of musk, and produce eight young ones in April.

5. *M. arvalis*, the meadow mouse, is from three to six inches long, the female being much longer than the male, and the tail is little more than an inch: the head is large, with a blunt nose, short ears almost hid in the fur, and prominent eyes; the upper parts of the body are of a mixed ferruginous and black color; the belly is deep ash, and the legs and feet dusky; the tail is terminated by a small tuft of hair. There is a variety which is almost black. This species inhabits all Europe, Siberia, Hyrcania, and Newfoundland; dwelling in bushy places, corn fields, meadows, and gardens, chiefly near waters: living on grain, nuts, acorns, and walnuts, which they collect into subterraneous burrows; but prefer corn to every other food. When the grain is ripe they assemble from all quarters, and often do great damage by cutting the stalks of corn to get at the ears. They follow the reapers and eat up all the fallen grain. When the gleanings are devoured they flock to the new sown fields, and eat up the seed. In winter most of them retire into the woods, where they feed upon filberts, acorns, and seeds of trees. In some years they appear in numbers so immense that they would destroy every thing if they continued long; but they always kill and eat one another during a scarcity. They are also devoured by the long-tailed field mice, by foxes, wild cats, and weasels. They are often carried home in sheaves of corn, and 100 of them have been found in housing a rick. In such cases it has been observed that the dogs devoured all the mice of this sort they could find, rejecting the common kind; while cats would touch none but the last. The female produces several times a year, and brings from eight to twelve young at a birth: it has a strong affection for them; one that was seduced into a wire trap by placing its brood in it, was so intent on fostering them that it appeared quite regardless of its captivity. In Newfoundland these mice are very destructive to gardens; but seldom do much damage in Britain.

6. *M. betulinus*, the beech mouse, has a considerable resemblance to the wandering mouse, but is somewhat smaller. The upper parts of the body are tawny, with a black line along the back, the under parts whitish, or pale ash-color; the nose is sharp, with a red tip; the ears are small oval, plaited, brown, and bristly at the ends; the limbs are very slender, with long and

very separable toes; the tail is slender, and much longer than the body. This species inhabit the birch woods in the desert plains of Ischim and Baraba, and between the Oby and Jenisei. They live chiefly in the hollows of decayed trees. They run up trees readily, and fasten on their branches by the tail; and by their slender fingers can fasten even to a very smooth surface. They are very delicate, soon growing torpid in cold weather, and their voice is very weak.

7. *M. caraco*, has a naked tail, long, scaly, and somewhat blunt; the body is of a brown gray color, and the hind feet are very slightly webbed. They inhabit the east parts of Siberia, Chinese Tartary, and the north provinces of China; burrowing like rabbits near the banks of rivers. They swim remarkably well, and infest houses. The body and head are six inches long, and the tail four and a half.

8. *M. cricetus acredula*, the Siberian hamster, has large oblong oval furrowed ears: the upper parts of the body are of a yellowish and brown ash-color, the under parts hoary. The head and body measure four inches, and the tail near one. This species inhabit the district of Orenburg in Siberia, near the Yaik or Ural. They live in burrows, which they quit only in the night for food. The Cossacks say they migrate out of the deserts in vast multitudes; but Dr. Pallas suspects this to be a mistake.

9. *M. cricetus arenarius*, the sand hamster, has the upper parts of the body hoary; the sides, belly, limbs, and tail, pure white. It inhabits the sandy deserts of Baraba, on the Irtysh, in Siberia. The head is large, with a longish snout and sharp nose, having very long whiskers, very large pouches, and great oval brownish ears; the body is short and thick, about four inches long, and the tail rather more than one; the fur is very soft; the fore feet have only four toes each, the hind feet five, all the claws being white. These animals are very fierce and untameable; form burrows, are chiefly active at night, and feed mostly upon leguminous plants.

10. *M. cricetus furunculus*, the Baraba hamster, has the upper parts of the body of a cinereous yellow, with a black streak on the back; the under parts dirty white. It is about three inches long, and the tail near one. This species inhabits Dauria, Siberia in the desert of Baraba, towards the Ob, between the Onon and Argum, and in the Chinese empire near Lake Dalai; living chiefly on the seeds of the astragalus and atriplex; their manners are unknown.

11. *M. cricetus Germanicus*, the German hamster, is the most destructive of the whole rat tribe. The bodies of the males are about ten inches long, and the tail about three, but the females are scarcely more than half so large; the former weigh from twelve to sixteen ounces, the latter seldom from above four to six. The head is thick, with a blunt nose, and numerous whiskers, large full black eyes, and large rounded open ears; the head and back of a reddish-brown color, with red cheeks; the sides paler, with three white spots; the breast, upper part of the fore legs, and belly, are black; the feet large and white with four toes, and a claw on the fore feet, and five toes on each hind foot. Sometimes,

though rarely, they are entirely white or yellowish, or white with black spots on the back; sometimes the snout is white, and the forehead ash-colored, or the lower jaw of a white color. This species inhabits Siberia, the south of Russia, Poland, Sclavonia, Hungary, Silesia, Bohemia, and Germany beyond the Rhine, especially in Thuringia. Each individual forms a subterraneous burrow, consisting of several chambers, with two holes leading from the surface; one of these is perpendicular, and the other, for their excrements, is oblique; the holes of the females have several perpendicular openings, and each young one is lodged in a separate chamber. These chambers are lined with straw or grass; the rest are larger, and filled with grain, beans, peas, linseed, vetches, and other seeds, each in a separate cell. The chambers of the elder animals are dug several feet deep, while those of the younger seldom exceed a foot under the surface. The hamster sleeps during winter; when in a torpid state, no respiration nor feeling can be perceived. The heart, however, beats fifteen times in a minute. The blood continues fluid, but the intestines are not irritable; even an electrical shock does not awake him; but in the open air he never becomes torpid. When dug up in his state of torpidity, the hamster is found with his head bent under his belly between the two fore legs. The eyes are shut; and, when the eye-lids are forced open, they instantly close again. The members are stiff, like those of a dead animal, and the whole body feels as cold as ice. When dissected during this state, he seems to feel very little; sometimes, indeed, he opens his mouth as if he wanted to respire; but his lethargy is too strong to admit of his awakening entirely. This has been ascribed to a certain degree of cold. But experience shows, that, to render the hamster torpid, he must also be excluded from all communication with the external air; for when he is shut up in a cage filled with earth and straw, and exposed in winter to a degree of cold sufficient to freeze the water, he never becomes torpid: but when the cage is sunk three or four feet under ground, and well secured against the access of the air, at the end of eight or ten days he is as torpid as if in his own burrow. If the cage is brought up to the surface, the hamster will awake in a few hours, and resume his torpid state when put below the earth. The experiment may be repeated as long as the frost continues. The hamster, in passing from a torpid to an active state, first loses the rigidity of his members, and then makes a profound respiration, but at long intervals. His legs begin to move, he opens his mouth, and utters disagreeable and rattling sounds. After some time, he opens his eyes, and endeavours to raise himself on his legs. But all these movements are still reeling and unsteady, like those of a man intoxicated. He, however, reiterates his efforts till he is able to stand on his legs, and gradually begins to walk, eat, and act in his usual manner. This passage from a torpid to an active state requires more or less time, according to the temperature of the air. When exposed to a cold air, he sometimes requires more than two hours to awake; but in a temperate air he will awake in less than one

The hamster is very mischievous, and so exceedingly fierce that he seems to have no other passion but rage. He attacks every other animal that comes in his way, without regarding the superior size and strength of his antagonist; and even allows himself to be beaten to pieces with a stick rather than yield. If he seizes a man's hand, he must be killed before he quits his hold. When the hamster perceives a dog at a distance, he begins with emptying his cheek pouches, if filled with grain, which are so capacious as to hold a quarter of a pint English. He then blows them up so prodigiously, that the size of the head and neck exceeds that of the body. He then raises himself on his hind legs, and in this attitude darts on his enemy. If he catches hold he never quits it but with life. But the dog generally seizes him behind, and strangles him. This ferocious temper leads him even to destroy his own species, not excepting the females. When two hamsters meet they fight, and the stronger always devours the weaker. A combat between a male and a female lasts longer than between two males. They begin by pursuing and biting each other; then each retires to take breath; a little after, they renew the combat, and continue to fly and fight till one of them falls. The hamsters copulate about the end of April; when the males enter the apartments of the females, where they remain only a few days. If two males meet in the same hole, a furious combat ensues, which terminates in the death of the weakest. The conqueror takes possession of the female; and both, though at every other period they kill each other, lay aside their natural ferocity during the few days their amours continue. They even mutually defend each other against aggressors; and, if a hole is opened about this time, the female defends her mate with the utmost fury. The females bring forth twice or thrice a year. Their litter is from six to eighteen. Their growth is very rapid. At the age of fifteen days they begin to dig the earth; and soon after, the mother banishes them from her habitation: so that at the age of about three weeks they are abandoned to their own management. The mother discovers little affection for her offspring; and, when her hole is opened, flies in the most dastardly manner, leaving her young ones to perish. Her only solicitude is to provide for her own defence, by digging deeper into the earth, which she performs with amazing quickness. The young would willingly follow her; but she is deaf to their cries, and even shuts the hole. The hamsters feed upon all kinds of herbs, roots, and grains, and eat the flesh of such animals as they can conquer. They are fond of liquorice, and feed much on its seeds. Their pace is very slow, and they do not climb; but they dig with vast quickness, and will gnaw through a piece of wood an inch and a half thick in a very short time. As they are not formed for long journeys, their magazines are first stocked with the provisions nearest their abode. When the harvest is reaped, they go to a greater distance in quest of provisions, and carry every article they can find to their granaries. To facilitate the transportation of their food, they have two pouches in the inside of each cheek. On the outside these

pouches are membranous, smooth, and shining; and in the inside there are many glands, which secrete a certain fluid, to preserve the flexibility of the parts, and to enable them to resist any accidents, which may be occasioned by the roughness or sharpness of particular grains. Each of these receptacles is capable of containing an ounce and a half of grain, which, on his return to his lodgings, the animal empties, by pressing his two fore feet against his cheeks. A hamster, having his cheeks filled with provisions, is easily seized with the hand, without the risk of being bitten, as in this condition he has not the free motion of his jaws. But in a little time he empties his pouches, and stands upon his defence. The quantity of provisions found in the holes depends on the age and sex of the inhabitant. The old hamsters often amass 100 lbs. of grain. Their object in laying up provisions, is not to nourish them during winter, which they pass in sleep, and without eating; but to support them previous to their falling into that state, which resembles a profound sleep, and after they awake in spring. At the approach of winter the hamsters retire into their subterraneous abodes, the entrance to which they carefully shut up. Here they repose upon a bed of straw, and in this state are commonly dug up. They are preyed on by polecats, weasels, cats, dogs, foxes, and birds of prey; and are proscribed by man. In winter the peasants generally go a hamster-nesting, as they call it: the retreat is known by a small eminence of earth raised near the oblique passage above described. The peasants dig down till they discover the hoard, and are generally well paid for their trouble; as they often find two bushels of corn, besides the skins of the animals, which are valuable furs; and the hair sticks so fast to the skin that it cannot be plucked off without great difficulty. In some seasons the hamsters are so numerous, that they occasion a dearth of corn. In one year about 11,000 skins, in a second 54,000, and in a third 80,000, were brought to the town-house of Gotha, to receive a reward for their destruction. They are likewise destroyed by a paste, formed of honey and flour, boiled up with arsenic or powdered hellebore.

12. *M. cricetus phæus*, the rice hamster, or zarizyn rat of Pennant, has the upper parts of the body ash-color, with long dusky hairs along the back; the sides whitish; the circumference of the mouth, breast, belly, and extremities of the limbs, pure white. It is about three inches and a half long, and the tail scarcely one inch. This species inhabit about Zarizyn in the deserts of Siberia, and in the mountains of the north of Persia; where they do vast mischief in the rice fields. They are often caught in traps during winter, near stables and other out-houses, and never become torpid.

13. *M. cricetus songarus*, the songar hamster, has the upper parts of the body of a gray ash-color, marked with a black line along the back; the sides of the head and body are varied with large white and dark brown spots; the feet and belly are white. It is about three inches long, with a very short, thick, blunt, and hairy tail, little more than one-third of an inch long. They inhabit

the desert of Baraba, near the Irtish, in Siberia; where they dig chambers for provisions. They are not, however, so fierce as some other species, but may be tamed when caught young, and grow very familiar.

14. *M. cyanus*, the blue mouse, resembles the field mouse, except in color; the upper parts are blue, and the under whitish, the ears are rounded. They inhabit Chili, form large burrows divided into chambers, in which they collect great stores of bulbous roots; for which the Chinese search for them.

15. *M. decumanus*, the brown rat, has a long, naked, scaly tail; the upper parts of the body are of a light brown, mixed with tawny and ash-color, the lower parts dirty white. The head and body measure about nine inches; and the length of the tail, which consists of 200 rings, is seven and a half. The whiskers are larger than the head; and the eyes are large, black, and prominent. The fore feet have four toes, with a small claw or thumb. They inhabit India and Persia, but were not known in Europe till the eighteenth century. They dwell in burrows on the banks of rivers; and frequent towns, aqueducts, drains, necessaries, stables, barns, gardens, fields, and houses. They swim and dive with great dexterity; feed on vegetables, grain, fruits, and poultry; and are hunted eagerly by cats, dogs, and ferrets. They lay up stores of acorns, beech-mast, and other provisions, in their holes; in which the males remain during winter, except in fine weather, without hibernating; but the females and their young live mostly in barns and out-houses in that season. They often emigrate in great companies. The female produces three times in the year, from twelve to nineteen at a litter. Their bite is not only severe but dangerous, the wound being immediately attended with great swelling, and slow in healing. These animals are so bold as to turn upon those who pursue them, and fasten on the stick or hand of such as offer to strike them. This species is supposed to be the *mus Caspicus* of Ælian, which he says was nearly as large as the ichneumon, and made periodical visits in vast multitudes to the countries which border on the Caspian, swimming boldly over the rivers, holding by each others tails.

16. *M. lagurus*, the rambling mouse, has hardly any tail; the ears are shorter than the fur; the fore feet have each three toes, and the rudiments of a fourth; the upper parts of the body are ash-colored mixed with dusky, and have a black line along the back. The head is long, with rough and swelling lips; the limbs are short and slender; and the length of the body and head is between three and four inches. This species inhabits the deserts near the rivers Ural, Irtish, and Jenisei. Each individual forms a round nest of dried grass in a burrow, having an oblique and a perpendicular entrance. They feed chiefly on the dwarf iris; but eat all kinds of grain, and devour other species of this genus, as well as one another. They sleep very much, in a rolled up form, and are very slow in their motions, like the marmot; but do not become torpid in winter. The males are very salacious, and fight for the females; the conqueror generally devours the

vanquished. The females smell of musk, when in season, produce several times in the year, and bring five or six young ones at a birth. They migrate in great troops; whence the name given them by the Tartars, which signifies rambling.

17. *M. laniger*, the woolly mouse, with woolly fur of an ash-color, inhabits Peru and the north parts of Chili. They burrow in the earth, are very docile and cleanly, and easily tamed; they live on bulbous roots, especially onions; the females breed twice a year, and bring five or six young ones at each litter. They are about six inches long, with a short nose, and small sharp-pointed ears; the fur is very long and exceedingly fine, almost like the threads of a spider's web, and was formerly employed as the very finest species of wool by the Peruvians.

18. *M. lemmus*, the lemming, has a very short tail: the head is pointed, having very long whiskers, six of the hairs on each side being longer and stronger than the rest, the mouth is small, having two very long foreteeth in each jaw, and the upper lip is divided; the eyes are small and black; the ears are shorter than the fur, rounded, and reclined backwards; the fore legs are very short, having four slender hairy toes on each, and a long sharp claw like a cock's spur in place of the fifth; the hind feet have five toes; the skin is very thin, and the upper parts of the body are black and tawny, disposed in irregular blotches; the belly is white tinged with yellow. The length from nose to tail is about five inches; of the tail half an inch. These singular animals inhabit the mountains of Norway and Lapland. They feed on grass, the catkins of the dwarf birch, the lichen *rangiferinus*, and other vegetables; in summer they form shallow burrows under the turf, and in winter they make similar long passages under the snow in quest of food; for as they do not lay up magazines, and do not hibernate, they are obliged to search for provisions in the rigorous winter of these northern climes. When they foresee, by some wonderful instinct, the approach of a very severe winter, they leave their northern haunts in autumn, and emigrate in immense multitudes into the lower parts of Norway and Sweden, keeping a straight line in spite of every obstacle, moving mostly in the night time, and making prodigious havock of every vegetable they are able to reach. In this journey, which takes place at uncertain intervals, though generally once every ten years, they are destroyed by eagles, hawks, foxes, and other animals of prey, and numbers are drowned in passing rivers or lakes, which never interrupt their course, even proceeding on into the sea: from all these concurring causes very few live to return to their native mountains, and thus a check is put to their ravages, as it takes years to repair their numbers sufficiently for another migration. They are bold and fierce, so as even to attack men and beasts, if they meet them in their course; and bite so hard as to allow themselves to be carried a considerable way, hanging by their teeth to a stick, before they will quit their hold.

They never come into a house, or meddle with any thing that we eat; if they chance to come to a house in their way, there they stop

that they die; but, if they come to a stack of hay or corn, they eat their way through.

When they march over a meadow, they do it great damage, by eating the roots of the grass; but, if they encamp there, they wholly destroy the produce; the land looks like a place where there had been a fire, and the whole surface looks as if strewed with ashes.

The Laplanders are always glad to see these creatures on their march; for it always foretels plenty of more valuable creatures among them: the same cold that sends these out, sending also a number of fowl, squirrels, foxes, and other animals the same way. Wormius has written a complete treatise on this animal, calling it *Mus Norwegicus*; this is reprinted at large in his museum.

The female breeds several times in the year, producing five or six young at a birth: sometimes they bring forth during their migration, when they carry their young in their mouths or on their backs.

19. *M. lemmus Sibiricus*, the Siberian lemming, is a variety of a smaller size, and more uniform tawny color, than the above. It inhabits the north parts of the Uralian Mountains, and on the Oby. It differs greatly in manners from the former: for it lays up in its burrows large stores of provisions to serve during winter; whence it is probable that it does not migrate.

20. *M. messorius*, the harvest mouse, or less long tailed field mouse, is a very small species, and inhabits Hampshire, where it is very numerous, particularly in harvest. They form their nests above the ground, between the straws of the standing corn, and sometimes in thistles; they are of a round shape, and composed of the blades of corn. They bring about eight young ones at a time. They never enter houses; but are often carried, in the sheaves of corn, into ricks: and 100 of them have often been found in a single rick on pulling it down to be housed. Those that are not thus carried away in the sheaves, shelter themselves in winter under ground, and burrow deep, forming a warm bed of dead grass. They are the smallest of the British quadrupeds; the length from nose to tail is only two inches and a half; the tail two inches, and the weight one-sixth of an ounce. They are more slender than the other long-tailed field mice; and their back of a fuller red, inclining to the color of a dormouse.

21. *M. minutus*, the minute-mouse, has the upper parts of the body of a deep tawny or ferruginous color, and the under parts whitish. It is about half the size of the common mouse, the tail being scarcely two inches long; the female is smaller than the male, and less elegant in her colors; the nose is somewhat sharp; the face is dusky, with some whiteness at the corners of the mouth; the ears are small, and almost hid in the fur; the feet are gray. This species inhabits Russia; where they are found in corn fields, barns, and birch woods, wandering about without any fixed places for nests, and much greater numbers of males are found than of females.

22. *M. musculus*, the common mouse, has a very long, scaly, and almost naked tail; the fore feet have each four toes; the hind feet five, the fifth

or thumb having no claw: the head and body measure three inches and a half in length; the upper parts are tawny, and the lower whitish or ash-colored. This little animal, which inhabits all parts of the world, lives almost entirely in houses, and follows mankind for the sake of their provisions. It feeds on grain, bread, cheese, butter, oil, and every kind of food used by mankind, and drinks little: it is of mild and gentle manners, exceedingly timid, and very quick in all its motions. The mouse never issues from his hole but in quest of food, and runs in again upon the least alarm. It goes not, like the rat, from house to house, unless forced, and is not nearly so destructive. It is also capable of being tamed to a certain degree, though not so perfectly as other animals. It has many enemies, from whom it can escape only by its agility and minuteness. Owls, birds of prey, cats, weasels, hedge-hogs, and even rats, make war upon the mice, so that they are destroyed by millions; yet the species still subsists by its amazing fecundity. They bring forth at all seasons, and several times in the year; the litter generally consists of five or six; and in less than fifteen days the young disperse, and are able to provide for themselves. Aristotle tells us, that having shut up a pregnant mouse in a vessel, with plenty of grain, he found in a short time after 120 mice, all sprung from the same mother. Several varieties of mice as to color are found, some altogether black, some yellowish, others spotted with white; some of a white color with ash-colored spots; but the most beautiful of all, and the least common, are entirely white, with red eyes. As all these agree in every other circumstance, it is unnecessary to describe them more particularly.

23. *M. myocastor coypus*, the webbed beaver rat, has a thick hairy tail of a moderate length, and the hind feet webbed. It inhabits Chili, where it frequents the water. It has a strong resemblance, both in color and shape, to the otter; but is allied to the murine tribe by the number and arrangement of its teeth.

24. *M. myotalpa aspalax*, the Daurian mole-rat, is of a dirty yellow ash color on the upper parts, and whitish ash on the lower: has a very short tail, and no external ears; the eyes are very small, and deep seated; the feet have each five toes, the claws of the fore feet being very long. This species inhabits Dauria, and Siberia beyond the Irish, between the Alei and Tscharysch rivers. They dig very long burrows in the black turfy soil or firm land, throwing up numerous hillocks, which extend over a considerable surface; working both with feet and nose, and sometimes with their teeth. They feed chiefly on the roots of bulbous plants. This species varies in size, those of Dauria being nearly nine inches long, while those farther east are scarcely six.

25. *M. myotalpa Capensis*, the Cape mole-rat, is of a dark brown color tinged yellowish, with the fore part of the face, orbits, and regions of the ears, white. It has a very short tail, and no external ears; and is about five inches and a half long. They inhabit the Cape of Good Hope, and infest gardens.

26. *M. myotalpa maritima*, the African mole rat, is of a pale brownish ash-color, mixed with yellowish on the upper parts, the sides and under parts paler; the tail is very short; and there are no external ears. They inhabit the sand hills adjacent to the sea at the Cape of Good Hope; measuring twelve or thirteen inches in length. They form burrows in the sand like those of rabbits; and dig with surprising celerity. They run slowly; but are very fierce, and bite severely. They feed chiefly on the roots of *ixiæ*, *antho yzæ*, *gladioli*, and *irides*; and are reckoned good eating.

27. *M. myotalpa talpina*, the Russian mole-rat, is of a dusky color; has a very short tail, scarcely appearing beyond the fur; and no external ears; the fore teeth are long, extended from the mouth, and wedge-shaped; the eyes are very small, and hid in the fur; the feet have five toes; the fore feet are very strong, flat, and formed for digging. It is about four inches long, and in the general form resembles the water rat. As to color, the head, back, and sides are dusky, and the belly and limbs white. This species inhabits the plains of Russia and Western Siberia, scarcely extending beyond the Irtysh, and never beyond the Oby. They are fond of a turfy soil, avoiding sandy or muddy places; and dig holes like the hamster, which they line with soft grass, and fill with bulbous roots, throwing up hillocks of earth all along the tracks; each individual has its separate burrow; works only in the night, and seldom comes out except in the season of love. Their sight is very weak in the day-time. They feed chiefly on the roots of tulips, tuberose lathyrus, and tuberose phlomis. They procreate about the beginning of April, when they smell strongly of musk; and the females produce three or four young at a litter.

28. *M. myotalpa typhlus*, the blind mole rat, is of a reddish ash-color; and has no tail, external ears, or apparent eyes; the feet have each five toes; and the fore teeth are broad. The body and head measure between seven and eight inches; the mouth is continually gaping, with short wrinkled foreteeth above, and very long ones below, likewise wrinkled, none of them being hid by the lips; the body is covered with short, soft, and close set fur, of a dusky color at the bottom, with the ends of a rusty brown mixed with ash-color; the legs are very short, having five toes on each foot, armed with short claws, and slightly connected by a short membrane at their bases. This species inhabits the south parts of Russia, from Poland to the Volga. Each individual forms burrows under the turfy soil of very considerable extent, with many lateral passages, and throws out the earth at different distances, in large hillocks sometimes two yards in circumference, and proportionally high. It works with its snout, feet, rump, and teeth, and digs with great celerity; when frightened, it digs directly downwards. When irritated, they snort, gnash their teeth, raise their head in a menacing posture, and bite with great severity. They feed on roots, especially those of the bulbous *charophyllum*. They are entirely blind, though they have the rudiments of very small eyes, which are covered over with a continua-

tion of the skin; but they possess the sense of touching and hearing in a very eminent degree. They breed in spring and summer; and the female, which has two teats, brings from two to four young ones at a birth.

29. *M. œconomus*, the economic mouse, in its general form resembles the arvalis, but the body is rather naked and the belly larger. The ears are longer and hid in the fur; the color is tawny, and the fore feet have each three toes with the rudiments of a fourth. The head and body measures four inches and a quarter; the tail somewhat more than an inch. This species inhabits Siberia from the Irtysh eastwards, in Kamtschatka, and under the arctic circles. They are called by Dr. Pallas *mures œconomi*, from their curious way of living. They dwell mostly in damp soils, forming burrows, with many chambers, and numerous entrances, immediately under the turf. In these they lay up magazines of various vegetable food, chiefly bulbous roots; which they spread out in sunny days to dry, and never touch them but in winter, living all summer on berries and other vegetables. The Kamtschatkans hold these animals in great regard, and never destroy their hoards; they take away only part, and leave some *caviare* or other substance to support them in its stead. This species sometimes emigrate in vast multitudes, keeping a straight course, like the lemmus, even over rivers; and are much infested on their march by birds, fish, wild hogs, foxes, and other wild animals. They begin their march from about the river Pengu in spring, and about the middle of July reach Ochotska and Judoma, at a vast distance; and return in October. The Kamtschatkans are alarmed at their migrations, which, they say, portend rainy weather and a bad *chææ*; and, when they find them lying weak and spent with fatigue after crossing a river, give them every assistance in their power. The Tschutschki are not so much attached to them, but use both their winter stores and their earcases as food.

30. *M. pumilio*, the dwarf mouse, is of a brownish ash color, with the fore head and nape of the neck black, and having four black lines along the back meeting at the tail. It is scarcely two inches long, the tail is about two-thirds of the length of the body, and the whole animal, even when steeped many months in spirits, hardly weighs four scruples. The body is somewhat flattened; the regions of the eyes, the ears, and the nose, are of a paler color than the rest of the body; all the feet have five toes, the thumb or inner toe of the fore feet being very small, but distinctly furnished with a claw; the legs and feet are strongly made; the tail is almost naked, and of a pale ash color. This species, which was first described by Dr. Sparrman, inhabits the forests of Sutschamma near Hagen River, 200 hours' journey from the Cape of Good Hope.

31. *M. rattus*, the black or common rat, has an almost naked scaly tail, which is very small, has 250 distinct rings, and is eight inches long. The head and body measure seven inches in length; the upper parts are deep black-gray, and the under parts ash colored. There are four toes, and a small claw, on each fore foot, and five on the hind feet. This species inhabits India, Per-

sia, and Europe, except its most northern parts; hence it has been carried to Africa and America; and is common in Otaheite, but less so in the other islands of the South Sea. Of late, it has greatly diminished in Europe, and is even in many places extirpated, by the brown species, which destroy the black rats; though little is gained by the exchange, the brown having the same dispositions, with greater strength and abilities for doing mischief. The rat is the most pernicious of any of our smaller quadrupeds. Meat, corn, paper, cloaths, furniture, and every convenience of life, are a prey to these destructive creatures. They make equal havock among poultry, rabbits, and young game; and have even been known to gnaw the extremities of infants when asleep. They reside much in houses, barns, and granaries; and have fore teeth of such strength as to force their way through the hardest wood and oldest mortar. They make lodges for their residence, and nests for their young, near chimneys; and increase the warmth by forming magazines of wool, bits of cloth, hay, or straw. They lodge also in ceilings, and in the void spaces between the wall and the wainscoting. The female has ten teats, and brings forth several times a year, but always in summer. The litter generally is five or six; and in spite of poison, traps, and cats, they multiply in such a degree as often to do a great deal of damage. In houses where grain is kept, they often increase so prodigiously that the possessors are sometimes obliged to remove, unless the rats destroy each other. When a famine happens, by too many being crowded into one place, the strong kill the weak, open their heads, and first eat the brain and then the rest of the body. Next the war is renewed, and continues in the same manner till most of them are destroyed; which is the reason why these animals, after being extremely troublesome for some time, disappear all of a sudden, and do not return for a long time. When their young begin to issue from the hole, the mother watches, defends, and even fights with the cats, to save them. A large rat is more mischievous than a young cat, and nearly as strong; the rat uses his fore teeth; the cat makes most use of her claws; so that the latter requires both to be vigorous, and accustomed to fight, to destroy her adversary. The weasel, though smaller, is a much more dangerous and formidable enemy, because he can follow the rat into its retreat. Their strength being nearly equal, the combat often continues long, but the method of using their arms is very different. The rat wounds only by reiterated strokes with his fore teeth, which are better formed for gnawing than biting; and being situated at the extremity of the lever, or jaw, they have not much force. But the weasel bites cruelly with the whole jaw; and, instead of letting go its hold, sucks the blood from the wounded part, so that the rat is always killed. The rat was first introduced into America by the Europeans in 1544, and is now the pest of that continent.

32. *M. rutilus*, the red mouse, has a short tail; the ears are longer than the fur, which is tawny red on the back, light gray and yellow on the sides, and whitish on the belly. The head and body measure about four inches, and the tail one.

This species inhabits Siberia, from the Oby to Kamtschatka, and within the Arctic circle. They live in holes and hollows of trees; feeding on grain and sometimes on animals of the same genus. They come often into houses and barns, eating almost of every thing, but are particularly fond of flesh. They are very lively, and run about on the snow the whole winter.

33. *M. saxatilis*, the rock mouse, is about four inches long, and weighs nearly nine drachms; the tail is hairy, an inch and a half long, of a brown color above, and white beneath; the head is oblong, with a longish nose, and oval downy ears, brown at the edges; the limbs are strong; and the tail is thinly covered with hair; the upper parts of the body are brown, slightly mixed with yellowish or gray; the sides are rather inclined to gray; the belly is of a light ash or whitish; the feet and legs are blackish; the snout is dusky; and surrounded with a slender white ring. This species inhabit the eastern parts of Siberia beyond lake Baikal, and the deserts of Mongul Tartary. They burrow in the fissures of rocks, forming a winding oblique passage, which afterwards branches out into several others pointing downwards, and ending in a chamber in which is a bed of soft herbs. They feed chiefly on the seeds of the astragalus.

34. *M. socialis*, the social mouse, with a short slender tail, and naked, rounded, and very short ears; the fore feet have each three toes and the rudiments of a fourth; the upper parts of the body are light gray; the sides, shoulders, and belly white. The head and body are above three inches long, the tail half an inch. They inhabit the sandy deserts between the Volga and Ural, near the Caspian Sea, and in the mountains of Hyrcania. They live in families, consisting of a male and a female with their young ones; and of these families vast numbers live together, the whole country being covered with hillocks of earth thrown out of their burrows. They feed mostly on tulip roots; and are preyed on by weasels, polecats, crows, and otters. They swarm chiefly in spring, rarely in autumn, when they migrate, or take shelter among the bushes.

35. *M. sylvaticus*, the long-tailed field mouse, is larger than the common mouse, measuring from the end of the nose to the setting on of the tail four inches and a half; the tail four inches; the upper parts of the body are of a yellowish-brown; the breast is yellow, and the belly white; the tail is covered with short hair. The fore feet have four toes each; the hind feet five. These animals are found in fields, gardens, and shrubberies. In some place they are called bean mice, from the havock they make among beans when first sown. They feed also on nuts, acorns, and grain, of which they amass quantities, not proportioned to their wants, but to the capacity of the place where it is deposited, inasmuch that a single animal will collect more than a bushel. Thus they provide for other animals as well as themselves: the hog comes in for a share; and the great damage done to the fields by these creatures, in rooting up the ground, is chiefly owing to their search after the concealed hoards of the field mice. M. Buffon says, he has often seen great damage done to the plantations by them. They carry off the new sown acorns; by

following the furrow of the plough, they dig up one after another, not leaving a single seed. This happens chiefly in those seasons when the acorns are scarce: not finding a sufficient quantity in the woods, they come in quest of them to the cultivated fields, and often carry off such quantities that they corrupt in their magazines. They do more mischief in a nursery of trees than all the other animals put together. The only way to prevent this damage is to lay traps at ten paces asunder, through the extent of the sown field. No other apparatus is necessary than a roasted walnut placed under a flat stone, supported by a stick. The animals come to eat the walnut, which they prefer to acorns; and, as it is fixed to the stick, whenever they touch it the stone falls down and crushes them to death. The same expedient M. Buffon made use of with success against the short-tailed field mouse, which also destroys acorns. In this way upwards of 100 were taken each day, from a piece of ground consisting only of about forty French arpents. From the 15th of November to the 8th of December above 2000 were killed in this manner. Their numbers gradually diminished till the frost became severe, which is the time they retire into their holes to feed on their provisions. In autumn they are most numerous: if provisions fail in winter, they devour one another. The long-tailed mice eat also the short-tailed species, and thrushes, blackbirds, &c., which they find entangled in snares. M. Buffon once kept a dozen of these mice in a cage, and furnished them with food every morning at eight o'clock. One day they were neglected for about a quarter of an hour, when one of their number was eaten up by the rest; next day another suffered the same fate, and in a few days only one remained; all the others had been killed, and partly devoured, and even the survivor had his feet and tail mutilated. They are very prolific, producing more than once a year, and bringing nine or ten at a birth. They generally make the nest for their young very near the surface, and often in a thick tuft of grass. In winter they frequent barns, stables, and out-houses.

36. *M. torquatus*, the collared or ringed mouse, has a very short tail, with a tuft of hard bristles at the end, which is blunt; the ears are shorter than the fur; the feet have each five toes; the fur is ferruginous, varied with gray, yellow, and dusky, having a whitish collar round the neck, and a dark line along the back. The head and body are above three inches long, the tail scarcely one inch. They inhabit the north parts of the Uralian Mountains, and the marshes near the Frozen Ocean; feeding chiefly on the lichen *langiferus*, *lichen nivalis*, and *polygonum viviparum*; these plants they store up in burrows, having numerous passages, dug under the turfy soil. This species is migratory, and resembles the lemming in its manners.

37. *M. vagus*, the wandering mouse, is between two and three inches long; the upper parts of the body are a pale ash color, waved with black, and having a black line along the middle of the back; the ears are large, oval, naked, and plaited. The legs are very slender, and the feet whitish, having four toes with a conical excre-

scence before, and five behind, all armed with long claws; the tail is longer than the body very slender, prehensile at the end, of an ash-color above, and whitish below; the head is oblong, with a blunt nose, reddish at the tip, having yellow fore-teeth, and only two grinders on each side in the upper jaw. The female has eight teats. This species inhabit the deserts of Tartary and Siberia, as high as the Ural, Irtysh, Oby, and Jenisei; are frequent in birch woods, and live in fissures of rocks, under stones, and in hollows of trees; feeding chiefly on seeds, and on small animals of the same genus. They wander about in great flocks, migrating in the night; hibernate in the winter, and are of a very chilly nature, so as to become torpid and fall asleep, in a round form, in cold nights.

38. *M. Virginianus*, the Virginian mouse, has a very hairy long tail, very thick at the base, but tapering gradually. The nose is pointed and black, ears pointed, limbs very slender, the color universally white.

MUSA (Antonius), an eminent Greek physician, who cured the emperor Augustus of a dangerous illness by bathing. He was the first who prescribed the use of the cold bath. The Romans erected a statue to his honor. He wrote two treatises, which are both extant; 1. *De Herbâ Botanicâ*; and, 2. *De Tuendâ Valetudine*.

MUSA, in botany, the plain tree, a genus of the monœcia order and polyandria class of plants; natural order eighth, scitamineæ. MALE CAL. a spatha, or sheath: COR. dipetalous; the one petal erect and quinque-dentate; the other nectariferous, concave, and shorter; there are six filaments, five of which are perfect; one style; the germ inferior and abortive. FEMALE hermaphrodite has the CAL. COR. filaments, and pistil of the male hermaphrodite, with only one filament perfect: the BERRY is oblong, and three-angled below. The most remarkable species are:

M. paradisaiica, cultivated in all the islands of the West Indies, where the fruit serves the Indians for bread; and some of the white people also prefer it to most other things, especially to the yams and cassada bread. The plant rises with a soft stalk fifteen or twenty feet high; the lower part of the stalk is often as large as a man's thigh, diminishing gradually to the top, where the leaves come out on every side. These are often eight feet long, and from two to three broad, with a strong fleshy midrib and a great number of transverse veins running from the midrib to the borders. The leaves are thin and tender, so that where they are exposed to the open air they are generally torn by the wind; for, as they are large, the wind has great power against them. These leaves come out from the centre of the stalk, and are rolled up at their first appearance; but, when they are advanced above the stalk, they expand and turn backward. As these leaves come up rolled in this manner, their advance upwards is so quick that their growth may almost be discovered by the naked eye; and if a fine line is drawn across, level with the top of the leaf, in an hour the leaf will be nearly an inch above it. When the plant is grown to its full height, the spikes of flowers appear in the centre, which is often nearly four

feet long, and nods on one side. The flowers come out in bunches; those in the lower part of the spike being the largest; the others diminish in their size upward. Each of these bunches is covered with a sheath of a fine purple color, which drops off when the flowers open. The upper part of the spike is made up of male flowers, which are not succeeded by fruit, but fall off with their covers. The fruit, or plantain, is about a foot long, and an inch and a half or two inches diameter. It is at first green; but when ripe pale yellow. The skin is tough, and within is a soft pulp of a luscious sweet flavor. The spikes of the fruit are often so large as to weigh upwards of forty pounds. The fruit of this sort is generally cut before it is ripe. The green skin is pulled off, and the heart is roasted in a clear fire for a few minutes, and frequently turned; it is then scraped, and served up as bread. Boiled plantains are not so palatable. This tree is cultivated on a very extensive scale in Jamaica. Plantains also fatten horses, cattle, swine, dogs, fowls, and other domestic animals. The leaves, being smooth and soft, are employed as dressings after blisters: The water from the soft trunk is astringent, and employed by some to check diarrhœas. Every other part of the tree is useful in different parts of rural economy. The leaves are used for napkins and table-cloths, and are food for hogs.

MUSA SAPIENTUM, the banana-tree. This species differs from the preceding in having its stalks marked with dark purple stripes and spots. The fruit is shorter, straighter, and rounder; the pulp is softer, and of a more luscious taste. It is never eaten green; but when ripe it is very agreeable, either eaten raw, or fried in slices as fritters; and is relished by all ranks of people in the West Indies. Both these plants were carried to the West Indies from the Canary Islands; whither, it is believed, they had been brought from Guinea, where they grow naturally. They are also cultivated in Egypt, and in most other hot countries, where they grow to perfection in about ten months from their first planting to the ripening of their fruit. When their stalks are cut down, several suckers come up from the root, which, in six or eight months, produce fruit; so that, by cutting down the stalks at different times, there is a constant succession of fruit all the year. In Europe some of these plants are raised by gentlemen, who have hot-houses capacious enough for their reception, in many of which they have ripened their fruit very well; but, as they grow very tall, and their leaves are large, they require more room in the stove than most people are willing to allow them. They are propagated by suckers, which come from the roots of those plants which have fruited; and many times the younger plants, when stunted in growth, also put out suckers. The fruit of this tree is four or five inches long, of the size and shape of a middling cucumber, and of a high, grateful flavor; the leaves are two yards long, and a foot broad in the middle; they join to the top of the body of the tree, and often contain in their cavities a great quantity of water, which runs out, upon a small incision being made into the tree, at the junction of the

leaves. Bananas grow in great bunches, that weigh twelve pounds and upwards. The body of the tree is so porous as not to merit the name of wood; the tree is only perennial by its roots, and dies down to the ground every autumn. 'When the natives of the West Indies,' says Labat, 'undertake a voyage, they make provision of a paste of banana, which, in case of need, serves them for nourishment and drink; for this purpose they take ripe bananas, and, having squeezed them through a fine sieve, form the solid fruit into small loaves, which are dried in the sun or in hot ashes, after being previously wrapped up in the leaves of Indian flowering reed. When they would use this paste, they dissolve it in water, which is easily done; and the liquor, thereby rendered thick, has an agreeable acid taste, which makes it both refreshing and nourishing. The banana is greatly esteemed, and even venerated, by the natives of Madeira, who term it the forbidden fruit, and reckon it a crime almost inexpiable to cut it with a knife; because, after dissection, it exhibits, as they pretend, a similitude of our Saviour's crucifixion; and to cut the fruit open with a knife, is, in their apprehension, to wound his sacred image. Some authors suppose that the banana tree was that of the leaves of which our first parents made their aprons in Paradise.'

MUSÆUM, a hill near the citadel of Athens, so called, according to Pausanias, from Musæus, who used to retire thither to meditate and compose his religious hymns; at which place he was afterwards buried.

MUSÆUS, an ancient Greek poet, who was, according to Plato and Diodorus Siculus, an Athenian, the son of Orpheus, and chief of the Eleusinian mysteries instituted at Athens in honor of Ceres. According to others he was only the disciple of Orpheus; but, from the great resemblance between his talents and those of his master, he was called his son. Musæus is one of the first poets who versified the oracles. He is placed in the Arundelian marbles, epoch 15, 1426, B. C., at which time his hymns are there said to have been received in the celebration of the Eleusinian mysteries. Laertius says that Musæus not only composed a theogony, but formed a sphere for the use of his companions; yet, as this honor is generally given to Chiron, Sir Isaac Newton supposes that he enlarged it with the addition of several constellations after the conquest of the golden fleece. The sphere itself shows that it was delineated after the Argonautic expedition, which is described in the asterisms, together with several other more ancient histories of the Greeks, and without any thing later; for the Argo was the first long vessel which they had built. Hitherto they had used round ships of burden, and kept within sight of the shore; but now the princes of that country sailed rapidly through the deep, and guided their ships by the stars. Musæus is celebrated by Virgil in the character of hierophant, or priest of Ceres, at the head of the most illustrious mortals who merited a place in Elysium. Here he is made the conductor of Æneas to the recess where he meets the shade of his father Anchises. The works which went under

his name, like those of Orpheus, were by many attributed to Onomacritus. Nothing remains of them now, nor were any of his writings extant in the time of Pausanias, except a hymn to Ceres, which he made for the Lycomides. And as his hymns were likewise set to music, and sung in the mysteries by Musæus himself in the character of priest, he thence, perhaps, acquired from after times the title of musician; the performance of sacred music being probably at first confined to the priesthood in these celebrations, as it had been before in Egypt, whence they originated. However, he is not enumerated among ancient musicians by Plutarch.

MUSAGETES, a title of Hercules.

MUSCA, the fly, in zoology, a genus of insects belonging to the order of diptera. The mouth is furnished with a fleshy proboscis, and two lateral lips; but it has no palpi. This genus is divided into two different sections: 1. Those with simple antennæ. 2. Those which are furnished with a lateral hair or feather. Those have downy bodies, though scarcely perceptibly so; and have either a lateral plume or feather on the antennæ, or a simple hair on the side of the antennæ. The pilosæ have a few hairs scattered upon their bodies, principally upon the thorax; they have either a lateral feather or a lateral hair. Under these divisions are comprehended about 400 different species, as enumerated in Gmelin's edition of the *Systema Nature*. See ENTOMOLOGY. Flies are lascivious troublesome insects, that put up with every kind of food. They multiply most in hot moist climates; and so great was formerly their numbers in Spain that there were fly-hunters commissioned to kill them. The vapor of sulphur, or arsenic, destroys them; and their numbers may be reduced by taking them in phials of honeyed water, or between boards done over with honey.' There are 129 species, principally distinguished by the peculiarities in their feelers.

MUSCA, a name given to such persons among the Romans as officiously thrust themselves into the company of their superiors and those who despised them, by finding means of getting admittance to entertainments without invitation, and without a welcome: so that muscæ were the same as parasites, who were frequently by the Greeks termed *Mutæ*. See PARASITE.

MUSCADEL, *adj.* } Fr. *muscat*, *muscadel*,

MUSCADINE. } *muscadin*; Ital. *moscattello*, either from the fragrance resembling the nutmeg, *nux moschata*, or from *musca*, a fly; flies being fond of these grapes.—JOHNSON. A kind of sweet grape, sweet wine, and sweet pear.

He quafft off the *muscadel*.

And threw the sops all in the sexton's face.

Shakspeare.

MUSCADINE, or MUSCADEL, a rich wine of the growth of Provence, Languedoc, Ciudad, &c. The method of making muscadine at Frontignac is as follows:—they let the muscadine grapes grow half dry on the vine; as soon as they are gathered, they tread and press them immediately, and tun up the liquor, without letting it stand and work in the fat; the lee occasioning its goodness.

MUSCHENBROECK (Peter de), a distin-

guished natural philosopher and mathematician, born at Utrecht about 1700. He was first professor of these sciences in his native university, and afterwards invited to the chair at Leyden, where he died full of honors in 1761. He was a member of several academies; particularly that of Sciences at Paris. He wrote several works in Latin, all of which show the greatest penetration. He was also very consummate in the knowledge of law. His course of natural philosophy was translated into English in 2 vols. 8vo.

MUSCI, mosses, one of the seven families or classes into which all vegetables are divided by Linné in the *Philosophia Botanica*. The ancients took the moss of trees to be the effect of a disorder or discomposure of the texture on the bark; or at most a kind of little filaments arising from the bark: but the moderns find, by several observations, that mosses are all real and distinct plants, whose seed, being extremely small, is inclosed in little capsulæ; which bursting of themselves, the seed is carried off by the winds; till, falling into the inequalities of the bark of trees, it is there stopped, takes root, and feeds at the expense of the tree, as mouldiness does on bread, &c. What botanical writers strictly understand by the word moss is a class of plants appearing of an inferior rank to the common vegetables; the less perfect genera of which have been supposed to be wholly destitute of flowers or seeds, or any thing analogous to either, and to consist of simple, similar, and uniform parts; the genera a little above these have some diversity of parts, resembling those which serve other plants for fructification. The more perfect genera of the mosses not only consist of different parts, but have also their appropriated organs, containing a pulpy matter, which becomes dry, and assumes the form of a fine powder, composed of granules, each of which is either a seed or granule of farina, serving for the propagation of the species. The imperfect mosses are distinguished from the others by their appearance to the naked eye; they are either in form of a fine lanugo or down covering the surface of different bodies; or of slender filaments, or foliaceous bodies, floating about in the water; or are filaments of a tougher texture, hanging down from the branches of old trees; or little shrubs, or single horns, growing erect on the parched earth of mountains and heathy places; or as broad and foliaceous bodies, spreading themselves over the dry bark of trees or rocks, without any pedicle or other support. The perfect kinds of mosses are found in the shape of small but regular plants, divided into several branches, and clothed with leaves: these are of various forms and structures; some broad and thin, others slender as hairs; some pellucid, others opaque; some smooth, others hairy. From the ala of these leaves in some kinds, and from the summit of the stalks in others, there arise heads of various figure and structure, but all unicusular; some of these are naked, others covered with a calyptra or hood; some stand on long pedicles, and others are placed close to the stalks. These heads are called capsula, and contain their seeds or farina, and their pedicles setæ, in the *innia*, *hypna*, *Frya*, and *polytricha*,

&c. These capsules in some are covered with a calyptra; in others they are naked.

This tribe of plants, as well as the mushrooms, ferns, and sea-weeds, are still imperfectly known. Dillenius, professor of botany at Oxford, was the first who attempted an arrangement of them. In his *Catalogus Plantarum circa Gissam*, published at Frankfort in 1719, and afterwards in his *Historia Muscorum*, published at Oxford 1741, he divides the mosses into sixteen genera. This arrangement, however, includes the lichens, some of the fuci, and other plants which belong to very different families. The work, however, is valuable, in having introduced the knowledge of upwards of 200 plants, which were unknown before Dillenius: it is also of all his works the best executed, both for the descriptions and figures, and may serve as a model to such authors as intend to publish in detail the history of any particular family of plants. Micheli, in his *Nova Plantarum Genera*, published at Florence in folio, in 1629, divides the mosses into two sections, from the figure and situation of their flowers. These sections comprehend together sixteen genera, amongst which are improperly arranged several of the lichens and other sea-weeds. The discovery of the seeds of the mosses, though made by Dillenius in 1719, is claimed by Linné, who did not begin to write till 1735. In Ray's method the mosses formed the third class; in Tournefort's they constitute a single genus, by the name of muscus, in the first section of the seventeenth class, which comprehends the mosses, mushrooms, and some of the algæ or sea-weed, and is distinguished by the name of aspermæ, or plants without seed; the seeds of the mosses not having been detected by Tournefort. In the Linnæan they constitute the second order of the class cryptogamia, which contain all those plants in which the parts of the flower and fruit are either wanting, or not conspicuous. The characteristics are, 1. Antheræ or tops without filaments or threads. 2. The male flower, constituted by the presence of the tops, placed apart from the female, either on the same or distinct roots. 3. The female flowers distinct and without any pistillum. 4. The seeds devoid of both lobes, or cotyledones, and proper coverings; so that they exhibit the naked embryo. This order is subdivided into eleven genera, from the presence or absence of the calyx, which on these plants is a veil or cover like a monk's cowl, that is placed over the male organs or tops of the stamina, and is denominated calyptra, from the sexes of the plants, which bear male and female flowers, sometimes on the same, sometimes on distinct roots; and from the manner of growth of the female flowers, which are sometimes produced singly, sometimes in bunches or cones. These distinctions are mostly borrowed from Dillenius, whose merit in developing this part of the vegetable kingdom Linné acknowledges. The manner of seeding of mosses in general may be more clearly understood, from the description of that genus of them which has been traced through all its stages, and to which most of the others, though every genus has its distinct fructification in some respects, bear a very great general ana-

logy. This genus is the hypnum. The species of this are very numerous and common; but that particular one which was the subject of these observations is the short branched silky kind, common on old walls; and called by that author in his history hypnum vulgare, sericum, recurvum, capsulis erectis cuspidatis. The head of this moss appears to the naked eye a small, smooth, brownish-yellow, oblong body, about a ninth of an inch long; this is covered at its upper end with a membranaceous calyptra or hood, in shape resembling an extinguisher, or a funnel inverted. When this calyptra is taken off, and the head viewed with a microscope, the surface of it is seen to be ridged with longitudinal striæ. The basis of the head is of a deep orange color, and more opaque than the rest; and the top is bounded by an orange colored ring, swelling out something beyond the surface of the contiguous parts of the head. Good glasses show that in this head there are not wanting the parts essential to the fructification of what are usually called the more perfect plants. This ring is truly a monophyllous undulated calyx, within which arise sixteen pyramidal fimbriated stamina; these are of a pale greenish color, and are loaded with a whitish oval farina. The stamina all bend towards each other from their bases, and almost meet in a point at the tops. This is their appearance when the head is nearly ripe; and immediately under the arch formed by these stamina is a cylindrical hollow pistillum, through which the farina makes its way, and is dispersed among the seeds in the head; the fruit is a large capsule, filling every part of the membrane, which shows itself on the outside of the head, and in most places is contiguous to it; this capsule is filled with perfect and very beautiful seeds; they are round, transparent when unripe, but afterwards opaque, and of a very beautiful green, which color they retain even when dried. When this head is first produced from the plant, the stamina are very slender, and stand erect; the head is scarce any thicker than the stalk, and the calyptra covers it all over to shield the tender substance of the farina from external injuries. As the farina afterwards swells in the stamina, the seeds in the head increase also in bulk, and by their increase the head is more extended in thickness; and the stamina are by these means separated farther and farther from each other at their bases, but bend inwards toward their points, so as to form a kind of arched covering over the stigma of the pistillum which is single; and from hence the farina falls as it ripens into the head, and impregnates the seeds. See BOTANY.

MUSCI is likewise the name of the fifty-sixth order in Linnæus's *Fragments of a Natural Method*. See BOTANY.

MUSCICAPA, the fly-catcher, a genus of birds belonging to the order of passeræ. The bill is flattened at the base, almost triangular, notched at the upper mandible, and beset with bristles; the toes generally divided as far as their origin. The species are very numerous. Dr. Gmelin enumerates ninety-two, Latham ninety-seven. Of these we shall only describe seven, viz.—

1. *M. carolinensis*, or *caribonensis*, the cat-bird, is somewhat bigger than a lark: length eight inches; bill black; the upper parts of the body and wings of a deep brown; the under ash-colored: the crown of the head is black; the tail blackish; the legs are brown. This species is found in Virginia in the summer season; where they frequent shrubs rather than tall trees, and feed on insects: their cry resembles that of a cat, whence the English name given by Catesby.

2. *M. crinita*, the crested fly-catcher, is about the size of a lark; the head is crested, and of a dull green; the hind part of the neck and back are of the same color; the under parts from the chin to the breast of an ash-color, and thence to the vent yellow; the legs are black. These inhabit Carolina and Virginia in summer; build there, and depart in autumn.

3. *M. flabellifera*, the fan-tailed fly-catcher, is in length six inches and a half; the head is black, which color descends on the back part lower than the nape, whence it passes forward in a narrow collar to the throat; the chin, throat, and sides of the neck, except where this collar passes, are white; and over the eye is a white streak like an eye-brow: the upper parts of the body are olive-brown; the under parts yellowish rust, growing whitish towards the vent; the tail is longer than the body; the two middle feathers black; the others are white; the legs are dusky. This species inhabit the south isle of New Zealand, where they are seen constantly hunting after insects. They fly always with their tails in shape of a fan. They are easily tamed, and will then sit on any person's shoulder, and pick off the flies. They have a chirping kind of note, and are called by the natives diggo-wagh-wagh.

4. *M. grisola*, the spotted fly-catcher, is about five inches three quarters long. The head is large, of a brownish hue, spotted obscurely with black; the back is of a mouse-color; the wings and tail are dusky; the breast and belly white; the throat and sides under the wings dashed with red; the legs and feet are short and black. It is a bird of passage; appears here in spring; breeds with us, and departs in September. It builds its nest against any part of a tree that will support it, often in the hollow caused by the decay of some large limb, hole in a wall, &c., also in old posts and beams of barns, and returns to the same place season after season. It lays four or five pale eggs marked with reddish. It feeds on insects, and collects them on the wing. When the young can fly, the old ones retire with them into thick woods, where they frolic among the top branches; dropping from the boughs often quite perpendicular on the flies that sport beneath, and rising again in the same direction. They will also stand on the top of some stake or post, whence they spring forth on their prey, returning still to the same stand for many times together. They feed also on cherries.

5. *M. Pondiceriana*, the Pondicherry or Coromandel fly-catcher, is rather bigger than a sparrow. The general color of the upper parts is a cinereous grey; the throat, breast, and belly, white; the legs black. It inhabits the coast of Coromandel, where, from the sweetness of its song, it is called the Indian nightingale.

6. *M. rubra*, the summer red bird of Catesby, is a most beautiful species, somewhat bigger than a sparrow: the bill is yellowish, the eyes are black, the legs dusky, the male is wholly of a scarlet color, except the tips of the quill-feathers, which are of a dusky red; the color of the female is brown tinged with yellow. They inhabit Carolina and Virginia in summer.

7. *M. rubricollis*, purple-throated fly-catcher, is about the size of a blackbird. The whole plumage is black, except the chin, throat, and fore part of the neck, on which is a large bed of beautiful crimson, inclining to purple; the legs are black. These birds inhabit Cayenne and other parts of South America, where they are found in flocks, and precede, in general, the toucans in their movements. They feed on fruits and insects, are lively and always in action. They for the most part frequent the woods, like the toucans; and where the first are found the others are seldom far off.

MUS'CLE, *n. s.* } Fr. *muscle*; Ital. *mus-*
MUS'CLAR, *adj.* } *culo*; Lat. *musculus*. A
MUS'CLARITY, *n. s.* } fleshy fibre, or bundle
MUS'CULOUS, *adj.* } of fibres, enclosed by a
common membrane: muscular means relating to or performed by the muscles: muscularous, abounding in muscles or muscular strength: muscularity, the state of having muscles, or being strong in the muscles.

The uvea has a *muscular* power, and can dilate and contract that round hole, called the pupil of the eye, for the better moderating the transmission of light.

The guts of a sturgeon, taken out and cut to pieces, will still move, which may depend upon their great thickness and *muscularity*.

By the *muscular* motion and perpetual flux of the liquids, a great part of the liquids are thrown out of the body.

The instruments of motion are the *muscles*, the fibres whereof, contracting themselves, move the several parts of the body.

With eye askance
I view the *muscular* proportioned limb
Transformed to a lean shank.

MUS'CLE, *n. s.* Fr. *muscle*; Lat. *musculus*. A bivalve shell-fish.

Of shell-fish, there are wrinklers, limpets, cockles, and *muscles*.

It is the observation of Aristotle, that oysters and *muscles* grow fuller in the waxing of the moon.

Two pair of small *muscle* shells were found in a limestone quarry.

MUSCLE, in zoology. See MYTILUS.
MUSCLE, in anatomy. See ANATOMY. The motion of the muscles of animals has been thought a matter of such importance that an annual lecture upon it was founded by Dr. Croone, one of the original members of the Royal Society of London. The investigation of the subject has accordingly exercised the pens of many very learned and ingenious men; notwithstanding which it still remains involved in much obscurity. Dr. Blane of the Royal Society considers as muscles, not only those large masses of flesh which compose so great a part of the bulk of the body, but likewise all the minuter organs subservient to circulation, nutrition, and secre-

tion; since, not only the heart itself, but the whole vascular system and the intestines, owe their action to certain powers of irritability and contractility peculiar to muscular fibres. The first and most obvious considerations with respect to the muscles is the regular organisation of their fibres in a parallel direction. In this they are distinguished from every other matter of a fibrous structure, whether vegetable or mineral, by a certain degree of moisture, tenacity, and elasticity, entirely peculiar to themselves. The fibres of the muscles visible to the naked eye are composed of others discoverable by glasses, and these of others of fibres still smaller; neither has any person been able to discover the ultimately fine fibres of a muscle, which are not composed of others. Some have indeed imagined that they have been able to do this, but their observations have been found fallacious; and it is now universally allowed that the fibres are divisible beyond what the best assisted sight can trace, and are to all appearance uniform. In this regular and fibrous organisation they resemble the crystals of salts, many of which are found composed of fibres more and more fine, and which, like those of the muscles, can never be ultimately traced. It is evident that the cause of muscular motion cannot be referred to mechanism, which is itself only a secondary principle. Some have had recourse to a fluid conveyed into the fibres of muscles, by which they were swelled, and thereby shortened. One of the most plausible of these hypotheses supposes this fluid to be the blood; but this is plainly a petitio principii, for in order to set the blood in motion muscular motion is necessary. Other fluids have been supposed to have this effect; but even the existence of these has not been proved, and indeed the most solid objections might be brought against all the theories that have hitherto been invented.

Dr. Blane considers muscular motion as referable to an original law of animated matter, whereby its particles are endowed with an attractive power, for which no cause can be assigned, any more than for gravitation, cohesion, or chemical affinity. If the shortening of a muscular fibre, said he, depend on this increased power of attraction between its particles, the effect will be to add to the power of cohesion in the fibre; and to determine this he made the following experiment:—Having taken the flexor muscle of the thumb of a man newly dead, while yet warm and flexible, he appended a weight to it, continually augmenting it until the muscle broke; and this he found was done when 26 lbs. had been added: yet a living man of the same apparent strength and age could with ease lift a weight of 38 lbs. by the exertions of the same muscle. 'It is farther in proof of this fact,' he adds, 'that in the case of a violent strain, from muscular contraction in the living body, it is the tendons that gives way; whereas we have seen that in the dead body the muscle is the weaker of the two. It is also well known that, in cases of over exertion, the muscular fibres themselves do not give way, though the strongest tendons, such as the tendo Achillis, and even bones, such as the knee-bone, are broke by their living force, which,

in such instances, must be many times greater than the strength of the dead fibres. There is a case related in the Philosophical Transactions by Mr. Ainyand, wherein the os humeri was broken by an exertion of the muscles. Every one has heard of fractures happening from very slight accidents. These occur most probably from a jerk of the muscles concurring with the external violence. The sensible increase of hardness in a muscle, when in a state of contraction, may also be considered as a proof of an increased attraction of its particulars to each other at that time.'

'Contraction of a muscle produces no change in its density, and animal life differs from inanimate matter in this respect, as well as in most of its other properties and laws. One purpose in nature for muscles always preserving the same density may be, that, as some of them act in confined cavities, inconveniences might arise from their occupying more space at one time than at another. In the extremities of crustaceous animals, for instance, which are filled with muscles, a change of density would be apt to burst them. Another circumstance, in which the contractions of muscles differ from simple elasticity is, that the former, however frequent and violent, does not produce any heat, as collision and tension are known to do. This may admit of some cavil with regard to animals of warm blood; for one of the theories with regard to animal heat is, that it arises from the perpetual vibration of muscular fibres, particularly those of the vascular system; but this is not the case with respect to animals of cold blood, in which the actions of life are equally vigorous. The principal phenomena, therefore, of muscular motion are, the shortening of the fibres, the lateral swell, the increase of cohesion and hardness, and the unchanged density and temperature. As there is no alteration in the density of a muscle, in passing from relaxation to contraction, this change cannot consist in the approximation of the integran parts of the fibres, but must depend on some other circumstances in the intimate dispositions of the particles. In attempting to conceive in what this consists, the following explanation may be offered. It is probable that the regular structure of solid bodies depends on the polarity and shape of their integrant parts. Now all bodies, except such as are spherical, must have a long and a short axis; and let us imagine the fibres of muscles to be composed of spheroidal particles, we may then conceive relaxation to consist in their being disposed with their long axis in the line of their fibres, and contraction to consist in their short axis being disposed more or less in that direction. This will not only account for the decurtation and uniform density, but for the lateral swell, and also for the increased hardness and cohesion; for though the particles do not approach or recede, as in bodies simply elastic, yet their power of attraction will be increased by their centres being brought nearer, and by being applied to each other by more oblate surfaces. This hypothesis accords with what has been before proved concerning the unchangeable density; for what is lost in one dimension is gained in another; and

he cause for there being no increase in temperature depends probably on the same circumstance by which the density is preserved unaltered.' But in the prosecution of this subject we are involved in the universal difficulty. This is the action of stimuli, by which the muscles are exerted to contraction, and upon which all the phenomena of life depend.

The Dr. concludes his subject with considering the muscles as mechanical powers. 'As they constitute the strength of animals, it may be proper to consider the relation of their strength to their bulk, and the relation of the bulk and strength of the body to the density and cohesion of its own materials; and to the bulk, density, and cohesion of the external inanimate bodies with which it is conversant. It has been demonstrated by Galileo that in similar unequal bodies of a cylindrical or prismatic shape, such as the limbs of animals nearly are, the ratio of their efforts to break by their own weight is in the quadruplicate ratio of their lengths; but that the resistance they make to the same force is only in the triplicate ratio of their lengths. It follows from this that, in order to endow the limbs of animals with the same relative force, it is not only necessary that the bones should possess an increased proportion of thickness in order to give an adequate increase of what may be called the dead strength; but a similar increase of living strength is necessary by a suitable addition of muscular power in order to keep pace with the increased size of the bones. Now we observe, in fact, that in the large sized animals, such as the bull and the elephant, the thickness both of their bones and muscles becomes greater in proportion to the length of their limbs than in the smaller animals, and they are therefore of a less elegant form. But nature has not carried this so far as to compensate for the disadvantage arising from the increase of size; for the greater animals have not the same proportional strength, in relation to their bulk, that the smaller animals have. It has been computed that a flea can draw from seventy to eighty times its own weight, whereas a horse cannot with ease draw more than three times his own weight. This disproportion between size and strength is very observable in different individuals of the human species; for tall men are not muscular, even in the simple proportion of their stature.' Considering the manner in which the muscles act upon the bones into which they are inserted, and considering the bones as levers, the muscles seem to act upon them at a very great disadvantage, being always inserted much nearer the fulcrum than the weight to be raised. Thus the two muscles of the arm, named biceps and brachiius internus, in order to support in the hand a weight of one pound, with the fore arm at right angles to the humerus, must exert a power equal to ten pounds. Another circumstance which tends to waste the power is the obliquity with which they are inserted into their bones; so that the greater part of the force is expended in pressing one bone against another at the articulation, and only a small part of it in making the flexures and extensions. These disadvantages, however, are compensated by a number of conveniences,

which could not have been obtained on any other plan. We must distinguish between those actions which consist in pressure and those which depend on percussion; for, as the momentum of this last depends on velocity, it is evident that there must be a great advantage from the insertion of the tendon being near the centre of motion, as greater velocity with less expense of contraction will thus be communicated to the extremity. The muscles, for instance, which are attached to the olecranon, in performing those actions with the hand which require rubbing, act with a disadvantage exactly proportional to the inequality of the distance from their insertion to the joint of the elbow, and that from the same joint to the hand. This is an act of pressure. But in the case of percussion, as in the act of using a hammer, there is an evident advantage resulting from the velocity communicated to the extremity; for in order to have produced the same velocity, with the insertion at a greater distance from the centre of motion, a much greater degree of contraction would have been necessary, and our author shows that fatigue principally depends on a contraction of the muscles. 'If any one,' he says, 'will take the trouble of comparing the fatigue of the biceps muscle, in bearing a weight in the hand with the elbow joint bent to a right angle, with that of bearing the same weight for the same length of time with the joint at an acute angle, he will be sensible how much the degree of fatigue depends on the extent of contraction; and, by attending to the relative situation of muscular fibres, it will appear that Nature, in distributing the fibres of muscles obliquely, has had it in view not only to increase their number, but to save contraction.' In considering the actions of the various muscles in producing the different actions of the body, we find scarcely one produced that can be called direct. In some instances we find two muscles, or two sets of muscles, co-operating, so that the motion effected by them shall be in the diagonal of their direction. This is the case of the oblique muscles of the abdomen in some of their actions, and of the intercostal muscles in all theirs. Sometimes different portions of the same muscle combine in like manner to produce a similar effect; and in all the long muscles, however simple their origin and insertion may be, there is an internal obliquity of their fibres with regard to one another; for these do not run from end to end, but there are parts of the tendon running into the belly of the muscle, so as to divide it into penniform and rhomboidal portions. This distribution of the fibres takes off from the length; but, as it takes place in those cases where the origin and insertion are at a considerable distance, this can be afforded; and this, as well as the waste of power in consequence of oblique action, is more than compensated by the increased strength from the fibres being multiplied; for, in consequence of this structure, there is an extent of tendon afforded sufficient for the insertion of a greater number of fleshy fibres. The Dr. illustrates this principle in the mechanism of muscular action from the example of fish; a species of animals which exert greater muscular powers than any

other. 'The muscles of most fish,' says he, 'consist of regular series of oblique short fibres, forming those strata which every one must have observed in their muscular substance. Their motions are more simple and limited than those of land animals, but much more vigorous; for a fish in the sea has to make its way through a medium about 1000 times more dense than air, and with more rapidity than those which inhabit the land. Nature, therefore, instead of giving them muscles whose fibres would run straight from one end of their body to the other, has multiplied their numbers by distributing them into short and oblique portions. I have seen the sword of a swordfish sticking in a plank which it had penetrated from side to side; and when it is considered that the animal was then moving through so dense a medium, and in the same direction with the ship, we must form a high conception of its muscular power.'

For tables of the various muscles of the human body, with their various uses, see our article ANATOMY.

MUSCLE SHOALS, an expansion of the river Tennessee, about 250 miles from the mouth of the river, and about the same distance from the whirl, or suck, where the river branches through the Great Ridge, or Cumberland Mountain. The expansion extends about twenty-five miles, is two or three miles wide, and receives its name from the number of soft shell turtles and fresh water clams found here.

MUSCULUS (Andrew), a Lutheran divine, who was professor of divinity at Francfort on the Oder, in the sixteenth century, and wrote several books on theology. He died in 1580.

MUSCULUS (Wolfgang), a learned protestant divine, born at Dieuze in Lorraine, in 1497. He joined the Benedictines, and was esteemed a good preacher; but, having embraced Luther's doctrines, was obliged to fly to Strasburg, where he married. After this he suffered great hardships, and was obliged to work for his bread; but at length was made ministering deacon of the chief church in Strasburg; whence he removed, in 1527, to Augsburg, where he prevailed on the magistrates to abolish the popish worship. When Augsburg was taken by Charles V. he retired to Berne, where he was appointed professor of divinity, and died in 1563. He was a man of deep erudition, and translated several works of the Greek fathers into Latin. He also published comments on the Scriptures.

MUSCULUS, a military machine, made use of by the Romans to cover and protect the soldiers while they approached and undermined the walls of besieged places, or filled the ditches. It seems to have resembled the testudo in form, but was smaller in size. See TESTUDO.

MUSE, *n. s. & v. n.* } Fr. *muse*, *muscr*; Belg.

MUSEFUL, *n. s.* } *muse*, *mysen*; Teut. *mus*; Span., Ital., Port. and Lat. *musa*; Gr. *μουσα*. Anciently a goddess, of whom there were nine, supposed to preside over poetry and the fine arts (see below): hence the power or genius or poetry; deep thought or attention: to muse is, to ponder; think deeply; be engrossed or absent in mind; to be lost in wonder: museful, thoughtful; wrapt in silent thought.

Farisees herden the puple *musynge* of hym these things, and the princis and farisees sentin ministres to take him.

My mouth shall speak of wisdom; and my heart *muse* of understanding.

All men *mused* in their hearts of John, whether he were the Christ or not.

Her face upon a sudden glittered, so that I was afraid of her, and *mused* what it might be.

If he spake courteously, he angled the people's hearts; if he were silent, he *mused* upon some dangerous plot.

The tidings strange did him abashed make,
That still he sat long time astonished
As in great *muse*, ne word to creature spake.

St. Augustine, speaking of devout men, noteth, how they daily frequented the church, how attentive ear they give unto the chapters read, how careful they were to remember the same, and to *muse* there-upon by themselves.

Cæsar's father oft,
When he hath *mused* of taking kingdoms in,
Bestowed his lips on that unworthy place,
As it rained kisses.

Why hast thou lost the fresh blood in thy cheeks;
And given my treasures and my rights of thee,
To thick-eyed *musing* and cursed melancholy? *Id.*

Do not *muse* at me,
I have a strange infirmity. *Id. Macbeth.*

The sad king
Feels sudden terror and cold shivering,
Lists not to eat, still *muses*, sleeps unsound.

Begin, my *muse*.

He was filled
With admiration and deep *muse*, to hear
Of things so high and strange.

The *muse*-inspired train
Triumph, and raise their drooping heads again.
On these he *mused* within his thoughtful mind.

We *muse* so much on the one, that we are apt to overlook and forget the other. *Atterbury's Sermons.*
Lodona's fate, in long oblivion cast,
The *muse* shall sing, and what she sings shall last.

Man superiour walks
Amid the glad creation, *musing* praise,
And looking lively gratitude.

But Nith maun be my *muse*'s well,
My *muse* maun be thy bonnie sel;
On Corsincon I'll glowr and spell,
And write how dear I love thee.

Now waving grain, wide o'er the plain,
Delights the weary farmer;
And the moon shines bright, when I rove at night
To *muse* upon my charmer.

I again perceive
The soothing influence of the wafted strains,
And settle in soft *musings* as I tread
The walk, still verdant, under oaks and elms,
Whose outspread branches overarch the glade.

Me now, of these
Deep *musing*, high ambitious thoughts inflame
Greatly to serve my country, distant land,
And build me virtuous fame; nor shall the dust
Of these fallen piles with show of sad decay
Avert the good resolve.

MUSEIA, Grecian festivals in honor of the muses, celebrated with games every fifth year, particularly by the Thespians. The Macedonians also observed a festival of the same name in honor of Jupiter and the Muses, which lasted nine days, and was celebrated with stage plays, songs, and poetical compositions.

MUSES, deities among the Pagans, supposed to preside over the arts and sciences. Hence it was usual for the poets, at the beginning of a poem, to invoke the aid of these goddesses. The Muses are said to have been originally only singers and musicians in the service of Osiris, or the great Egyptian Bacchus, under his son Orus; but in succeeding times they were deified, and called the daughters of Jupiter and Mnemosyne, or Memory. Diodorus Siculus says that Alcman of Messene, a lyric poet, who flourished in the twenty-seventh Olympiad, 670 years B. C., makes them the daughters of Uranus and Terra. It has been asserted by some ancient writers, that at first they were only three in number; and that their names were Melete (meditation), Mneme (memory), and Aæde (song or music); but Homer, Hesiod, and other mythologists, admit of nine; and Hesiod, in his Theogony, names them all. Each of them presides over some art or science, as music, poetry, dancing, astronomy, &c. By some they are called virgins, because the virtues of education appear unalterable; they are called Muses, *Μῦσαι*, from *μαω*, to enquire or explain mysteries, because they taught things the most curious and important.

In a relievo, on a sarcophagus in the Capitoline Gallery at Rome, the nine Muses are represented in the following order:—

Clio is first, and distinguished by the roll or book in her hand, or with the longer bolder pipe (Hor. i. od. 12, v. 2). Her office was to celebrate the actions of departed heroes, though Statius makes her descend to lower functions, from the old notion that every thing penned in hexameters was an epic poem. Stat. 1. Sylv. 2. v. 10. Thalia was the muse of comedy and pastorals (Virgil, Eclogue 6, v. 2), and is distinguished by the comic mask in her hand, and her pastoral crook. Terpsichore has nothing to distinguish her. Ausonius gives her the cithara. On the medals of the Pomponian family, three muses have stringed instruments in their hands, but we do not know them from one another; and are besides used to call the cithara, barbiton, and testudo by the common name of lyres. These three muses are, in the relievo, the third, or Terpsichore, and the fifth and seventh, which appear to be Erato and Polyhymnia; though that cannot be determined till the names and shapes of the stringed instruments come to be better known.

Euterpe presided over music, and played on two pipes (tibiæ) at once, as in the remarks before Terence's plays. By these pipes she is distinguished, though sometimes she holds the fistula or calami, in her hands, and is so described by Ausonius. Hor. i. od. 1, v. 33. Erato, who presided over the amorous kinds of poetry, is neatly attired and looks pretty though thoughtful. She is represented at times pensive,

but in other instances full of gaiety, as she appears on gems; both which characters, though directly opposite, suit with the ever-varying moods of lovers, and consequently are proper to their patroness. Ovid invokes Erato pleasantly enough in his Art of Love, and likewise in his Fasti for April, which among the Romans was considered as more peculiarly the lover's month. But Virgil appears to invoke her, in his Æneid, before a field of battle, with less propriety, unless indeed it was because the war was occasioned by a woman.

Calliope is called by Ovid the chief of the muses; and by Horace Regina, as skilful on all instruments. The tables in her hand mark her distinguishing character, which was to note down the worthy actions of the living. The books in ancient times somewhat resembled the rolls in the offices for old records; and the form now in use for books was then only used for tablets (pugillares) or pocket-books, called by Catullus pugillaria, and by Ausonius pugillar bipatens. Polyhymnia is specified by some stringed instrument in her hand, perhaps what the Romans called the barbiton, for which we have no name. Urania presided over astronomy, and is distinguished by the celestial globe at her feet and the radius in her hand. In statues the globe is sometimes in her hand, and sometimes placed on a column before her. Melpomene was the muse of tragedy, and was held, in fact, to preside over melancholy subjects of all kinds. She is distinguished by the mask on her head, which has occasionally been placed so far backward that it has been mistaken for a second face, as may be seen in Montfaucon 1. pl. 59.

The palm-tree, the laurel, together with all the fountains of Pindus, Helicon, Parnassus, &c., were sacred to the muses. Sometimes they were depicted as dancing in a chorus, probably to intimate the near and indissoluble connexion existing between the liberal arts and sciences.

MUSEUM, *n. s.* Gr. *μουσικον*. First applied to a temple of the Muses at Alexandria; a repository of learned curiosities.

It is not unfrequent with us to speak of cabinets of animals, cabinets of birds, of fishes, reptiles, and other similar articles, as a mode of expressing such an assemblage of natural history as may not be of sufficient importance to deserve the epithet of a museum. *Dr. A. Rees.*

MUSEUM originally signified a part of the palace of Alexandria, which took up at least one-fourth of the city. This quarter was so called on account of its being set apart for the muses and the study of the sciences. Here were lodged and entertained the men of learning; who were divided into companies or colleges, according to the sciences of which they were the professors; and to each of these houses or colleges was allotted a handsome revenue. The foundation of this establishment is attributed to Ptolemy Philadelphus, who here placed his library. Hence museum is now applied to any place set apart as a repository for things that have an immediate relation to the sciences.

MUSEUM ASMINGTONIAN, a noble building at Oxford, erected at the expense of the university, at the west end of the theatre, on which side it

has a magnificent portal, sustained by pillars of the Corinthian order. The front, which is to the street, extends about sixty feet, where there is this inscription over the entrance in gilt characters, *Museum Ashmoleanum, schola naturalis historię, officina chymica*. It was begun in 1679, and finished in 1683, when a valuable collection of curiosities was presented to the university by Elias Ashmole, esq., which were the same day deposited there; several accessions have been since made to it; among which are hieroglyphics and other Egyptian antiquities, an entire mummy, Roman antiquities, altars, medals, lamps, &c., and a variety of natural curiosities.

MUSEUM, BRITISH. The British Museum, as the only *open* literary establishment in London, deserves our particular notice. To the disgraceful cupidity which marks the conduct of the age, our literary and even religious temples, like those of Jerusalem, are occupied by 'money changers,' who watch the gate like Cerberus, and like him are only to be passed by a bribe: not so this great national establishment, where persons of all ranks in society are freely admitted on merely giving their names; and, although upwards of two thousand visitors have been received in the course of five or six hours, yet no comparative injury has resulted to any of the curiosities it contains.

The building in which our national collections are deposited is situated in Great Russel Street, Bloomsbury, and was formerly called Montagu House, on account of its having been the residence of the dukes of Montagu. It was built by Ralph, the first duke of that title, in the reign of Louis XIV., under the direction of Peter Puget, a celebrated French architect, who came from Paris for the purpose. The principal building, which is on the north side of a spacious quadrangle concealed from the street by a lofty brick wall, is 216 feet in length, and fifty-seven feet high. The two wings are appropriated to the residence of the officers of the establishment. In the new building, now in progress, one of the wings will be devoted to the use of the library bequeathed by George III., which is very extensive. In the old edifice the exterior is of no positive order of architecture; but, in the interior, the hall is spacious, the staircase ample, and the rooms not only lofty, but the ceilings of several of them are painted by Rousseau and Charles de la Fosse. The great staircase, the decorations of which have been recently restored, was painted by these two artists. The ceiling, which represents Phaeton petitioning Apollo for leave to drive his chariot, was painted by de la Fosse, who was eminent for the beauty and chasteness of his coloring; the landscapes and architectural decorations were by Rousseau, whose skill in perspective is perpetuated in many buildings in Paris, as well as in this staircase.

The British Museum is rich in MSS., printed books, sculpture, and the curiosities of nature and art; the collection of manuscripts is said to be the most numerous and most valuable of any in Europe. It was commenced by Henry VIII. who was anxious to found a royal library, and on the suppression of the religious houses purchased

such manuscripts as Leland and others had rescued from the spoils of the monasteries; this library, which was considerably increased by his successors, continued to be kept in one of the royal palaces until the reign of George II., who presented it to the British Museum.

The Harleian MSS. are a collection formed by Harley, lord Oxford, and increased by his son; they are bound up in 7639 volumes, and include, besides distinct treatises, nearly 40,000 original rolls, letters patent, signs manual, charters with their confirmations, warrants, deeds, and other instruments connected with the history or topography of the country. Among these there is a finely illuminated copy of Hardyng's Chronicle, much more perfect than Grafton's edition. In this copy, Hardyng, who served Hotspur, and was with him in all his battles, has inserted the letter of defiance sent to king Henry IV. by the earl of Northumberland, his son Henry Hotspur, and his brother the earl of Worcester, previous to the battle of Shrewsbury. The library also contains a very old copy of William of Malmesbury's elaborate treatise *de Gestis Regum Anglorum*, which was formerly preserved with the most religious care at Rochester; several copies of the Dunstable Chronicle, one of which is beautifully illuminated, and another adorned with the blazon of the arms of several emperors and kings. The library is rich in heraldic collections, and includes genealogies and memoirs of most of the British monarchs, a large collection of royal letters and mandates, and a curious volume which formerly belonged to lord treasurer Burleigh. It contains a register of the grants, &c., which passed the privy seal, signet, or sign manual during the reigns of Edward V. and Richard III., including 2378 distinct documents. There are also in this collection several volumes formerly belonging to Sir Simond d'Ewes, the Suffolk antiquary, Stow the historian of London, Mr. Charles the Lancaster herald, and the MSS. of Fox the martyrologist. This valuable collection of MSS. was purchased by government for the sum of £10,000, and it is much to be regretted that the printed books belonging to the Harley library were not purchased at the same time. They were sold to Osborne the bookseller for £13,000, which was £5000 less than the binding had cost the earl of Oxford.

The Cottonian collection of MSS. is the next in number and value, founded by Sir Robert Cotton, the friend of Camden, Lambard, and other learned antiquarians of that period; such was the avidity with which he collected books, and the attachment he felt for them, that when he fell out of favor with Charles I., in consequence of his amanuensis having copied a tract which was in his library, written by Sir Robert Dudley, duke of Northumberland, at Florence, in 1613, he was shut from his books, he declared 'that they had broken his heart who had locked up his library from him;' and a short time before his death he addressed a memorial to the privy council, stating that it was the cause of his mortal malady. The obnoxious tract was entitled *Propositions for his Majesty's service to bridle the impertinency of Parliaments*; but it was cir-

culated under the new title of A Project how a Prince may make himself an absolute Tyrant.

The library, which originally consisted of 958 volumes, was, by a fire, in 1731, reduced to 861, of which 105 were damaged bundles in cases; the number of articles, however, are upwards of 26,000. The fire took place when the library was deposited in a house in little Dean's-yard. The books which were removed to the British Museum, in 1753, are arranged in fourteen presses, over which are placed the busts of the twelve Cæsars, with Cleopatra and Faustina. In this collection there is the original Magna Charta, which king John signed at Ruunymede, together with the original copy of the articles preparatory to the signing of the great charter, with the seal perfect; the latter was presented to the Museum in 1769 by earl Stanhope.

The Lansdown MSS., purchased pursuant to a vote of parliament of the marquis of Lansdown, in 1807, for the sum of £4325, contain the Burghley Papers, in 122 volumes, including one of Charters and other documents of an early date; and the Cæsar and Kennet papers, formerly belonging to Sir Julius Cæsar, judge of the admiralty to queen Elizabeth, and to Dr. White Kennet, bishop of Peterborough. They are bound up in 1245 volumes, and are rich in original letters, and historical, biographical, and heraldical documents.

The collections of Sir Hans Sloane and Dr. Birch are also large; that of the former, containing 4100 volumes, principally on physic, natural history, and natural philosophy, with several journals of voyages, and some oriental MSS. Those of Dr. Birch, many of which are copies of valuable papers in private collections, are, in number, 337, chiefly on history, biography, divinity, and literature.

The Hargrave MSS., purchased in 1813, consist of 499 volumes, which are almost exclusively devoted to law. The MSS. of Dr. Burney, which, together with his library and printed books, were purchased for £13,500, contain the most complete and valuable copies of Homer's Iliad, a series of the Greek orators, the Greek Gospels of the tenth and twelfth centuries, and many other classical works.

These are the principal collections of MSS.; they are, however, far from including all that are deposited in the Museum, as many have been added by gift, bequest, or purchase, among which are twenty-four volumes of MSS., principally oriental, belonging to Brassey Halhed, esq. M. P. A collection of MSS. and rolls, consisting of sixty-two articles, relating to Kent, purchased of Mr. Hasted, the historian of the county. Fifty-seven volumes of public acts, &c., relating to the history and government of England from the year 1105 to 1608, collected by Thomas Rymer, but not printed in his *Fœdera*. Sixty-four volumes of rolls of parliament, which, together with Rymer's papers, were presented by the house of lords. Forty-three volumes of Icelandic MSS., presented by Sir Joseph Banks. Forty-one volumes, containing the decisions of the commissioners for settling the city estates after the fire of London, presented by Thomas Cowper, esq. A collection of forty-seven vo-

lumes, relating to the history of Ireland, presented by the Rev. Jeremiah Milles, dean of Exeter. Sir William Musgrave's MSS., forty-four volumes, thirty-two of which consist of an obituary, the rest being a collection of biographical adversaria, autographs, original warrants, catalogues of portraits, &c., which were bequeathed by the baronet.

The MSS. of the Rev. William Cole, M. A. This gentleman, although a clergyman of the established church, was a rank and intolerant Catholic; his MSS., which are principally topographical, are interlarded with so many coarse and pointed personalities, that, in bequeathing them to the museum, he ordered they should be sealed up, and not opened until thirty years after his death. Mr. Cole had originally written only on one side of his MSS., but economy afterwards prompted him to fill up the other, so that the volumes contain the most singular admixture of subjects; thus, on the cartulary of some monastery, we frequently find a receipt for making good soup, an entry respecting a servant, a trade against Wilkes and liberty, the price of hay and corn at Cambridge market, or the number of the last lottery ticket he had purchased. Thirty-eight volumes of MSS., and nine of drawings, relating to the history and topography of Sussex, by Sir William Burrell, to which John Fuller, esq., of Rose Hill, has added several collections on the same subject, made by the Rev. William Hayley, of Brightling. Twenty-seven volumes of music, by the old composers, presented by James Mathias, esq.; and twenty-four volumes on the history of this delightful science, which, with a large collection of printed books, were bequeathed by Sir John Hawkins: there are also several other MSS. presented by Mr. Cracherode, Dr. Askew, and others.

The library of printed books, though by no means complete, is very extensive, and is, perhaps, the richest in the world, not only in early typography, but in curious works of a more recent date. His majesty, George III., presented a most valuable collection of pamphlets, relating to the civil wars, which had been commenced by Charles I., and prosecuted by him, even when compelled to quit London, and seek refuge, when he could no longer resist the power which so long threatened him, in the country. The library of printed books, belonging to Dr. Burney, is particularly valuable; it contains a collection of newspapers, from the year 1603, until the time of his death, in 1817. This collection, which is by no means complete, extends to several thousand volumes. The collection of materials for a history of the stage, by the same learned gentleman, amounting to between 300 and 400 volumes, is valuable. The collection of prints is large, and includes the finest specimens of ancient arts.

In sculpture, the British Museum is particularly rich. The Townley collection, which was formed by Charles Townley, esq., during a residence of many years at Rome, consists of numerous splendid terracottas and marbles. Several fine pieces of ancient sculpture, formerly belonging to Sir Hans Sloane, Mr. Burke, and other collectors, have been added. There is a

fine bas relief, representing the Apotheosis, or deification of Homer, which for many years adorned the Colonna palace at Rome; a colossal head of Hercules, dug up at the foot of Mount Vesuvius, where it had been buried by the lava. Independent of the Egyptian marbles, and the Elgin collection, there are in the museum, forty-six terracottas, forty-five Roman sepulchral antiquities, and 225 Greek and Roman sculptures. Among the Egyptian antiquities are two very fine mummies, and fifty-six sculptures, most of which had been collected by the French, during Buonaparte's campaign in Egypt, and came into the possession of the English army, in consequence of the capitulation of Alexandria. Among these are a large Egyptian sarcophagus, used by the Turks, at Grand Cairo, as a cistern, and called the 'Lover's fountain;' and the Rosetta stone with three inscriptions, recording the services which Ptolemy V. had rendered his country. To this collection several valuable articles have been contributed by modern travellers, particularly the head and upper part of the body of a colossal statue, brought from the ruins of the Memnonium, and presented by Mr. Salt, and the late Louis Burckhardt.

Twenty-three bas reliefs, representing the battles of the Centaurs and Lapithæ, and the combat between the Greeks and the Amazons, also enrich this gallery. They were found in the ruins of the temple of Apollo Epicurius, which was built by Ictinus, a contemporary of Pericles; but the most valuable collection is that formerly belonging to the earl of Elgin, formed during his embassy to the Ottoman Porte, and purchased by government for £35,000. These sculptures consist of fifteen of the metopes, and the exterior frieze of the cella of the Parthenon, with numerous other relics of antiquity from that celebrated temple, as well as from that of Erectheus. They are generally believed to have been executed from the designs of Phidias, the celebrated Athenian sculptor. Lord Elgin has been very harshly treated, for having despoiled Athens of these matchless productions of ancient art. The muse of Byron, most powerful in its hate, has perpetuated his abhorrence of the spoliation, in a poem, called *The Curse of Minerva*; and some of our travellers have recorded their sentiments on the ruins of the temple itself at Athens; the plaster wall, on the west side of the temple of Minerva Pollias, bearing the following inscription, cut in very deep characters:—

Quod non fecerunt Goti
Hoc fecerunt Scoti.

The British Museum contains a most extensive collection of minerals, systematically arranged, with numerous specimens of native iron, and fragments of the most celebrated aërolites that have fallen at various periods, either in England or abroad. In one room a British Oryctognostic collection has been commenced, and when complete must be a very valuable contribution to science. The minerals of the counties of England are distinctly classified, so that it may be ascertained at one view, if any, and which of the four classes of earths, metals, inflammable substances, and salts, are to be met with in any part of Great Britain. The counties are ar-

ranged alphabetically, though, if space could be obtained, it would be better that they should be classed geographically, when the approximation of the different substances in adjoining counties would more easily be traced.

The collections in zoology, conchology, and ornithology, are not only very complete, but that of entomology contains about 90,000 specimens. The collection of medals and coins, the basis of which was formed by the cabinets of Sir Hans Sloane, and Sir Robert Cotton, has received so many additions, that it is now the most complete of any in Europe.

In another room there is a curious collection of Penates, pateræ, necklaces, ear-rings, Hindu, Chinese, and Japanese idols, specimens of ancient armour, and other antiquities, which formerly belonged to Sir William Hamilton, together with the celebrated Barberini, or Portland vase, the most ancient and the most beautiful specimen of sculpture in glass that is known to exist. These are a few of the curiosities of this great national depository, the whole of which are open to the public, with the exception of the library; to which, however, access for the purposes of study is not difficult.

MUSGRAVE (Dr. William), a learned physician and antiquary, born at Charlton-Musgrave, in Somersetshire, about 1657. He studied at New College, Oxford. Having distinguished himself by his skill in medicine and natural philosophy, he was elected F. R. S.; and being made secretary, in 1684, he continued the Philosophical Transactions from No. 167 to No. 178 inclusive. He took his degree of M. D. in 1689; and, being admitted a member of the college of physicians, settled at Exeter, where he practised physic with great success. Being a man of extensive learning, he wrote several valuable works; as, 1. *De Arthritide Anomalâ sive Internâ Dissertatio*. 2. *De Arthritide Symptomaticâ Dissertatio*. 3. *Julii Vitalis Epitaphium, cum commentario*. 4. *De Legionibus Epistola*. 5. *De aquilis Romanis Epistola*. 6. *Inscriptio Terraconensis, cum commentario*. 7. *Geta Britannicus, &c.* 8. *Belgium Britannicum*. He died in 1721.

MUSGRAVE (Sir Richard), an Irish baronet and author, born about 1758. Having married a lady of the Cavendish family, he obtained, through her connexions, the place of collector of the excise for Dublin, a seat in the Irish parliament, and a baronetcy. He died in 1818.

MUSH'ROOM, *n. s.* } Fr. *mousseron*; old

MUSH'ROOMSTONE. } Fr. *muscheron*. A species of AGARICUS or BOLETUS (which see), growing often on dunghills and uncultivated ground. It has become a metaphorical term of reproach for an upstart or low-bred man: mushroom-stone is, a kind of fossil. See LYNCURIUM.

Mushrooms come up in a night, and yet they are unsown; and therefore such as are upstarts in state, they call in reproach *mushrooms*.

Bacon's *Natural History*.

While he is rotting in this gaol, his young son Jehoachim starts up in his throne; like to a mushroom, that rises up in a night and withers in a day.

Bp. Hall.

Tully, the humble *mushroom* scarcely known,
The lowly native of a country town. Dryden.

Fifteen *mushroomstones* of the same shape.

Woodward.

M U S I C.

MU'SIC, *n. s.*
 MU'SICAL, *adj.*
 MU'SICALLY, *adv.*
 MU'SICALNESS, *n. s.*
 MUSIC'IAN.

Fr. *musique*; Italian
 and Lat. *musica*; Greek
 μουσική, harmony or me-
 lody. The science of
 melody and harmony;
 harmonious or melodious instruments, or where
 such entertainments prevail. The other deriva-
 tives follow these senses.

When she spake,
 Sweet words, like dropping honey, she did shed;
 And 'twixt the pearls and rubies softly brake
 A silver sound, that heavenly *musick* seemed to make.
Faerie Queene.

The merry birds
 Chanted above their cheerful harmony,
 And made amongst themselves a sweet consort,
 That quickened the dull spirit with *musical* comfort.
Id.

The man that hath no *musick* in himself,
 Nor is not moved with concord of sweet sounds,
 Is fit for treasons. *Shakspeare. Merchant of Venice.*

Though the *musicians* that should play to you,
 Stand in the air a thousand leagues from hence;
 Yet strait they shall be here. *Id. Henry IV.*

A painter may make a better face than ever was;
 but he must do it by a kind of felicity, as a *musician*
 that maketh an excellent air in *musick*, and not by
 rule. *Bacon's Essays.*

Such *musick*
 Before was never made
 But when of old the sons of morning sung.
Milton.

Sweet bird that shun'st the noise of folly,
 Most *musical*, most melancholy,
 Thee chauntress, oft the wood among,
 I woo to hear thy even song. *Id.*

Now look into the *musick*-master's gains,
 Where noble youth at vast expence is taught,
 But eloquence not valued at a groat. *Dryden.*

Neither is it enough to give his author's sense, in
 poetical expressions and *musical* in numbers. *Id.*

The praise of Bacchus then the sweet *musician*
 sung;
 Of Bacchus ever fair and ever young. *Id.*

Any continual sound, as the *music* of birds, or a
 fall of waters, awakens every moment to the mind
 of the beholder, and makes him more attentive to the
 several beauties of the place that lie before him.
Addison.

Several *musical* instruments are to be seen in the
 hands of Apollo's muses, which might give great
 light to the dispute between the ancient and modern
musick. *Id.*

Valentine, *musically* coy,
 Shunned Phædra's arms. *Id.*
 We have dancing-masters and *musick*-masters.
Arbuthnot and Pope.

By *musick* minds an equal temper know,
 Nor swell too high, nor sink too low;
 Warriors she fires with animated sounds,
 Pours balm into the bleeding lover's wounds.
Pope.

What *musick*, and dancing, and diversions, and
 songs, are to many in the world, that prayers, and
 devotions, and psalms are to you. *Law.*

And who on the globe can be found,
 Save your generation and ours,
 That can be delighted by sound,
 Or boast any *musical* powers? *Cowper.*

And as the spot where they appear he nears,
 Surprised at these unwonted signs of idling,
 He hears—alas! no *music* of the spheres,
 But an unhallowed, earthly sound of fiddling!
Byron.

INTRODUCTION.

MUSIC is the art of combining sounds in a man-
 ner agreeable to the ear. This combination may
 be either simultaneous or successive; in the
 first case it constitutes harmony, in the last
 melody. But though the same sounds, or intervals
 of sound, which are employed in the construc-
 tion of some of the ancient melodies, give plea-
 sure when heard in succession, they will not
 always produce the same effect when accom-
 panied with harmony; yet the principles which
 constitute perfect and imperfect harmony are
 mostly, if not entirely, the same with those of
 modern melody. By perfect harmony we do not
 here mean that plenitude, those complex modifi-
 cations of harmonic sound, which are admired
 in practice; but that harmony which is called
 perfect by theoreticians and artists; that which re-
 sults from the coalescence of simultaneous sounds
 produced by vibrations in the proportions of
 minor thirds, perfect fifths, and octaves, or their
 replicates. By imperfect harmony is to be under-
 stood all dissonances requiring resolution into
 perfect harmony. When we would investigate
 the principles from which these happy modifica-
 tions of sound result, and by which they are de-
 termined; or when we would explore the sensa-
 tions, whether mental or corporeal, with which
 they affect us, they are found to constitute a
 science, which is not only extensive but profound.
 It has been observed that the ancient definitions
 of music were not proportioned in their extent to
 our present ideas of that art; but Rousseau be-
 trays a temerity inconsistent with the philosophi-
 cal character, when he thence infers that their
 ideas were vague and undetermined. Nor can
 we adopt his Egyptian etymology of the word
 music. The established derivation from *musa*
 could only be questioned by a paradoxical genius.
 That music had been practised in Egypt before
 it was known as an art in Greece is indeed a
 fact which cannot be questioned; but it does not
 thence follow that the Greeks had borrowed the
 name as well as the art from Egypt. If the art
 of music be so natural to man that vocal melody
 is practised wherever articulate sounds are used,
 there can be no reason for deducing the idea of
 music from the whistling of winds through the
 reeds that grew on the Nile. And, indeed, when
 we reflect with how easy a transition we may
 pass from the accents of speaking to diatonic
 sounds; when we observe how early children
 adapt the language of their amusements to mea-
 sure and melody, however rude; when we ob-
 serve that they even apply a kind of natural
 melody to the lessons they are taught to read;
 when we consider how early and universally
 these practices take place, there is no avoiding
 the conclusion, that the idea of music is connat-
 ural to man, and implied in the original princi-

ples of his constitution. The principles on which it is founded, and the rules by which it is conducted, constitute a science. The same maxims when applied to practice form an art.

Music may be divided into the mechanical and the expressive. The first is limited to the mere mechanism of sounds, and reaches no farther than the external senses, without carrying its impressions to the heart, and can produce nothing but corporeal sensations more or less agreeable. The second by lively and accentuated inflections, and by sounds which may be said to speak, expresses all the passions, paints every possible picture, reflects every object, subjects the whole of nature to its skilful imitations, and impresses even on the heart and soul of man sentiments proper to affect them in the most sensible manner. 'This,' says Rousseau, 'is the genuine lyric and theatrical music, and was that which gave double charms and energy to ancient poetry; this is what, in our days, we exert ourselves in applying to the drama, and what our singers endeavour to execute on the stage. It is in this music alone, and not in harmonics or the resonance of nature, that we must expect to find accounts of those prodigious effects which it formerly produced.'

'But, in fact, all music which is not in some degree characterised by these pathetic and imitative powers, deserves no better name than that of a musical jargon, and can only be effectuated by such a complication and intricacy of harmony as may confound, but cannot entertain, the audience. This character, therefore, ought to be added as essential to the definition of music.' Whilst moral effects are sought in the natural effects of sound alone, the scrutiny will be vain, and disputes will be maintained without being understood; but sounds, as representatives of objects, whether by nature or association, introduce new scenes to the fancy, and new feelings to the heart; not from their mechanical powers, but from the connexion established by the Author of our frame between sounds and the objects which, either by natural resemblance, or unavoidable association, they are made to represent.

It would seem that music was one of those arts which were first discovered; and that vocal was prior to instrumental music; for it is probable that music was originally formed to be the vehicle of poetry. We are told by ancient authors that all the laws, maxims, and exhortations to virtue, the characters and actions of gods and heroes, the lives and achievements of illustrious men, were written in verse, and sung publicly by a choir to the sound of instruments; and it appears from the Scriptures that such was often the custom among the Israelites.

The English, from the invasion of the Saxons to that era in which they imbibed the art and copied the manner of the Italians, had a music which neither pleased the soul nor charmed the ear. The primitive music of the French deserves no higher panegyric. Of all the barbarous nations, the Scots and Irish seem to have possessed the only kind of music calculated to interest the feelings of future generations. The first, from its varied expression, enables us to understand in a measure the extraordinary virtues ascribed by the different writers of antiquity

to the Grecian modes. The other, composed upon the principles of modern composition, is of a less varied description.

The primitive music of the Scots may be divided into the martial, the pastoral, and the festive. The first consists either in marches, which were played before the chieftains, in imitation of the battles which they fought, or in lamentations for the catastrophes of war and the extinction of families. These wild effusions of natural melody preserve several of the rules prescribed for composition. The strains, though rude and untutored, are frequently terrible or mournful in a very high degree. The port or march is sometimes in common, sometimes in triple time; regular in its measures, and exact in the distance between its returning cadences; most frequently, though not always, loud and brisk. The pibroch, or imitation of battles, is wild and abrupt in its transitions, from interval to interval, and from key to key: various and desultory in its movements; frequently irregular in the return of its cadences; and, in short, through the whole, seems inspired with such fury and enthusiasm, that the hearer is irresistibly infected with all the rage of precipitate courage, notwithstanding the rudeness of the accents by which it is kindled. That species of Scottish music which we have styled festive, seems now limited to reels and country dances. These may be either in common or triple time. They most frequently consist of two strains; each of these contain eight or twelve measures. They are truly rhythmical, and possess a manœuvre and expression peculiar to themselves. To these the pastoral forms a striking contrast. Its accents are plaintive, yet soothing; its modulations natural and agreeable; its rhythmus simple and regular; its transitions, at least, for the most part, from one concinnous interval to another; its movements slow, and may be either in common or triple time. It scarcely admits of any other harmony than that of a simple bass. A greater number of parts would cover the air and destroy the melody.

Dr. Franklin, writing to lord Kaimes on this subject, says, 'Give me leave, on this occasion, to extend a little the sense of your position, 'That melody and harmony are separately agreeable, and in union delightful;' and to give it as my opinion, that the reason why the Scotch tunes have lived so long, and will probably live for ever (if they escape being stifled in modern affected ornament), is merely this, that they are really compositions of melody and harmony united, or rather that their melody is harmony; I mean, the simple tunes sung by a single voice. As this will appear paradoxical, I must explain my meaning. In common acceptance, indeed, only an agreeable succession of sounds is called melody; and only the coexistence of agreeable sounds, harmony. But since the memory is capable of retaining for some moments a perfect idea of the pitch of a past sound, so as to compare it with the pitch of a succeeding sound, and judge truly of their agreement or disagreement, there may and does arise from thence a sense of harmony between the present and past sounds, equally pleasing with that between two present sounds. Now, the construction of the old Scotch

tunes is this, that almost every succeeding emphatical note is a third, a fifth, an octave, or some note that is in concord with the preceding note. Thirds are chiefly used, which are very pleasing concords.

‘That we have a most perfect idea of a sound just past, I might appeal to all acquainted with music, who know how easy it is to repeat a sound in the same pitch with one just heard. In tuning an instrument, a good ear can as easily determine that two strings are in unison by sounding them separately as by sounding them together; their disagreement is also as easily, I believe I may say more easily, and better distinguished when sounded separately; for when sounded together, though you know by the beating that one is higher than the other, you cannot tell which it is. I have ascribed to memory the ability of comparing the pitch of a present tone with that of one past.

‘Farther, when we consider by whom these ancient tunes were composed, and how they were first performed, we shall see that such harmonical successions of sounds were natural and even necessary in their construction. They were composed by the minstrels of those days, to be played on the harp, accompanied by the voice. The harp was strung with wire, which gives a sound of long continuance; and had no contrivance like that of the modern harpsichord, by which the sound of the preceding note can be stopt the moment a succeeding note begins. To avoid actual discord, it was therefore necessary that the succeeding emphatic note should accord with the preceding, as their sounds must exist at the same time. Hence arose that beauty in those tunes that have so long pleased, and will please for ever, though men scarcely know why.’

These observations are for the most part true as well as ingenious. But the transition in Scottish music, by consonant intervals, does not, as Dr. Franklin imagines, arise from the nature of the instruments upon which they played. Besides it is more than probable that the ancient British harp was not strung with wire, but with the same materials as the Welsh harps at present; and these strings have not the same permanency of tone as metal; so that the sound of a preceding emphatic note must have expired before the subsequent accented note could be introduced. Those who are acquainted with the manœuvre of the Irish harp, know well that there is a method of discontinuing sounds no less easy and effectual than upon the harpsichord. When the performer finds it proper to interrupt a note, he has no more to do but return his finger gently upon the string immediately struck, which effectually stops its vibration.

The principles upon which the melodies of Scotland are constructed are coeval with the first systems of sounds invented by the earliest musicians upon record.

PART I.

HISTORY OF MUSIC.

The ancient history of music, even among the most cultivated nations, is now entirely lost, or

so unhappily obscured that we can make but few certain or satisfactory discoveries in it. And, as no annals could be transmitted to posterity of that music which prevailed among such people as are called barbarous, our accounts of it must be still less authentic and satisfactory than those of the former. Even at periods which are more recent, and may therefore be thought more within the sphere of our investigation, we are at a loss both for the eras and the authors of some essential improvements in music. Yet those parts of its history which are either already known, or may be discovered, if related at full length with proper illustrations, would produce a work little inferior in size to the whole extent of that Encyclopædia, of which it is only to constitute a part. All, therefore, which can be expected, is to give a short and cursory detail of its primary state, and its most important revolutions so far as history enables us.

With respect to the origin and discovery, or as some have called it the invention of music, we read in St. Thomas Aquinas, that the first man possessed every science by means of images placed in him by the author of the universe, and that they were not acquired by his experience. Lucretius ascribes it to the whistling of the winds in the hollow reeds. Franckinus to the various sounds produced by the hammers of Tubal Cain. Cameleon Pontique and others have been ridiculed for ascribing it to the singing of birds, as Zarlino to the sound of water. Diocles, too, has been cited as the discoverer of music, having accidentally struck different sized vases in a pottery, and observed sounds of different degrees of acuteness and gravity to issue from them. Authors have, however, agreed in ascribing to Jubal the son of Lamech the discovery of musical sounds, and the theory of their portions to Pythagoras.

The origin of instrumental music, says a late writer, appears to have been at a period much prior to the date of authentic history; and, when we look for its epoch or its discoverer, we are carried at once into the wild regions of fable and mythology. The god Mercury, or Hermes, is said to have been the inventor of the lyre, by distending strings of different tensions and diameters upon the shell of a tortoise which he found upon the shore. The first exhibition of the fistula, or shepherd's pipe, is ascribed to Pan. But of these persons and their actions little or nothing can be ascertained with proper evidence. The Chinese maintain the prior right to the invention of instrumental music, and attribute it to the act of blowing the pith out of the bamboo.

But whatever credit may be given to these most probably vague opinions, we only know that observation and reflection, in the earliest ages must have proceeded in proportion as the activity of the mind was excited by interesting objects. The notes, though not always appreciable, of the nightingale, cuckoo, thrush, skylark, and blackbird, would, independently of the instinctive powers originally implanted in man, to sing as to speak, rejoice, and laugh, sufficiently teach him the difference between grave and acute sounds, and excite him to imitate and prolong such sounds, though as yet he was unacquainted

with the principles of the diatonic scale, thus constituting in the earliest ages the first principles of singing.

But music, like other sciences, has its foundation in nature; its principles are the gift of God implanted in our constitution; we neither learned it from the singing of birds nor the chiming of hammers. Its rules are strictly the result of mathematical observation, and the fruit of reflection bestowed upon the subject, by musicians of every age and every climate, whether as it regards melody or harmony. This art, therefore, forms a body of science which it has taken ages to construct. As we are ignorant of the name of the inventor of the first specimen of harmony, so are we also of the first composer of melody: the imperfection of the rules established or proposed by the first observers of sounds being forgotten in the more perfect ones of succeeding generations.

Confining ourselves to observations principally of a practical nature, we will merely remark that the ancient Greeks, from whom we, through the Romans, derive our music, had two distinct species of it: one corresponding to the various inflections of the human voice, called by us melody of speech, and the other precisely agreeing with our notions of singing; the former consisting of mathematical divisions of sound into quarter tones on certain parts of our scale, called by the ancients *genus spissum*; and the latter, to which we claim the reader's attention, into half-tones, and whole tones, called diatonic.

It is obvious that a system either of eight or four sounds, varying in their intervals, must have been adopted, of which one formed the principal one; also, that some given sound, natural or artificial, must have been used in the earliest ages, with a view of regulating the pitch of the voice. The lyre served for this purpose, both in singing and haranguing the multitude; it was tuned according to the nature of the voice, or of the piece to be sung or recited.

A species of monochord, termed the lyre of one string, served, like the pitch-pipe of the moderns, to ensure a given sound, or as we term it a key-note, to which all the other sounds bear a certain relation. It was formed, according to several authors of reputation, after the following manner, or, as they express it, after the model of Diana's bow, as in fig. 1; also as seen upon

Fig. 1.



Fig. 2.



various ancient marbles as in fig. 2, with a weight attached to the string to secure a certain tension. Instead of a weight Blanchini gives a bell, and not, perhaps improperly; since, in the earliest ages of counterpoint, we find a bell was used for the same purpose. Hence the expression tone, or tones, of the ancients, i. e. key-notes of their different modes.

The dichord, called by Athenæus, the *pectis*, or lyre of two strings, is represented as in fig. 3,

Fig. 3.

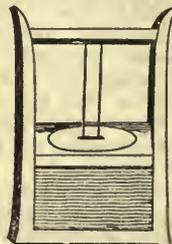


Fig. 4.



or as in fig. 4., and was tuned with the double view of regulating the voice, and of marking the key-note with its fourth and fifth; all the intermediate sounds being left to be intonated by the singer.

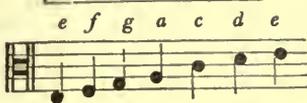
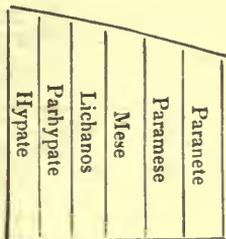
The trichord, as is shown in plate IV. Music, fig. 1, taken from a medal in the possession of the late duke of Brandenburg, we are expressly told was tuned to the sounds E, F, G, upon the bass-staff, forming three key-notes of as many different modes. The strings of these lyres, about a foot and a half in length, were made of thread, till the discovery of the entrails of animals for that purpose by Linus.

The lyre of four strings, which is called by many authors, the lyre of Mercury, and appears to have been variously tuned, viz. EFGA, also CFGC; the first arrangement expressing a system of four sounds, composed of one half-tone and two tones, forming a diatonic tetrachord, and the latter the perfect consonances of the fourth, the fifth, and the octave, which being the most natural combination of sounds, and therefore the least difficult to express by signs, was doubtless the original. Boethius was of this opinion. As to the first disposition of the strings of this lyre, history informs us that the sounds EFGA upon the bass staff not being sufficient to express every essential sound, three others were added below, DCB thus forming together two conjoined tetrachords, hereafter to be explained.

The lyre, or what is termed by various learned writers the heptachord of Orpheus, was of much earlier date: it was tuned to the following ascending intervals, viz. EFGACDE forming a diatonic tetrachord, a perfect fourth from the E below, and a perfect fifth from the E above. Of the disposition of the strings of this lyre, we read that Olympus passing over the Lichanos, and prelude upon the strings C, A, F, constituting

minor and major thirds, originally termed parame-se, mese, and parhypate, thus :

note placed upon the unaccented part of the musical measure is peculiar to Polish airs, for example :



Dr. Burney misrepresents the system of Olympus altogether, not only by placing the lyre in a wrong position, and describing the system by a scale not in existence, but by giving, instead of a major, the melody of a minor triad, thus :



(for the string called trite, by Pythagoras, was not at that time admitted into the system, and which, when introduced, altered the position of the above terms,) he observed the beauty of the effect, and forming a system of sounds by the then novel method of transposing this parame-se and nese, and adding a major third below, formed the following scale of notes, thus :



Or thus :



consisting of conjoined tetrachords, combining the thirds peculiar to the lyre of Orpheus, and a species of tetrachord, termed by him enharmonic, not a system of sounds proceeding by quarter tones, unknown to the earliest Greeks, but implying sweetly melodious, composed of a major third and a half tone, thus :



Or thus :



partaking, consequently, of neither of the ancient genera, or systems of sounds described in the scale of Pythagoras, which consisted of diatonic tetrachords, thus : B C D E, E F G A, A B C D | chromatic tetrachords, thus : B C C * E, E F F * A, A B b B c D, and enharmonic tetrachords, thus : B B x C E, E E x F A | A A x B b D.

Now every one conversant with the nature of Scottish music will perceive that the following arrangements of sounds, immediately derived from the lyre of Orpheus, and systems of Olympus, are as peculiar to Scottish, as the emphatic

calling it the old Scottish scale in a minor key, but which, on reference to the various collections of Scottish melodies, is, decidedly not the case ; that system being only what may be termed a mutilated descending minor scale, characteristic no more of Scottish than of other melodies in minor modes. But what is remarkable, by changing this system into a major one, effected only by inverting the order of sounds, or placing the longest strings of the lyre nearest rather than farthest from the performer, thus :



i. e. ascending instead of descending precisely by the same degrees, then descending by minor thirds, and a tone, thus :



which are the natural consequences of the ascending passages, we obtain the fundamental principles upon which a great number of Scottish melodies are constructed, as for example :



As I came o'er the banks of Bannoch.

which, from their having no fourth nor seventh intervals, in modern modes, and playing in the key of F sharp major, may be performed upon the short levers only of the pianoforte clavier, thus :



'Ye Banks and Braes of Bonny doon,' 'Auld Lang Syne,' &c. See Preston's edition of Thomson's, also of Bremner's Scottish melodies.

Campbell, though well aware of the peculiar style of some of the melodies of his nation, was not sufficiently acquainted with the history and theory of music to account for the whole of them upon fundamental principles. He was, however, the first to observe the powers of the short levers to express many of the melodies of Scotland, as also to express a minor, as well as a major scale, which he terms primary major and minor scales, thus : major F * G * A * C * D * F *, minor D * F * G * A * C * D * ; taking, as usual, the relative minor a third below, or a sixth above the major mode. But, to show more immediately the derivation of these remarkable scales of sound, we will follow the principle of Rousseau, and place them in the tetrachordial order of tones and minor thirds, thus : F * D * C * | C * A * G *, | D * C * A * | A * G * F * | D *. The tunes 'John of Badengone,' and 'Saw ye my Peggie,' &c., are composed upon the latter mode.

These systems of different sounds happening to correspond with the scale of an ancient Sticcado, formerly in the possession of the late Monsieur Arnaud of the French academy, i. e. without the admixture of half-tones, it has been supposed that the Chinese admitted of no intervals less than a tone into their musical system ; and that, therefore, the species of Scottish music we have been describing was either derived from the Chinese, or that the Chinese must have composed their music entirely after the manner of the earliest Scottish music. This is erroneous ; for it is well known that this singular race of people had divided the octave into twelve semitones, termed *lu*. from time immemorial. Indeed every thing tends to prove that the Chinese had cultivated and brought to considerable perfection the principles of music long before the Egyptians, from whom the Greeks as well as the Romans derived theirs ; a circumstance sufficiently attested from the drawing of the dichord, see plate IV. fig. 2, taken from an obelisk constructed in the time of Sesostris, now among the ruins of Rome, also of various drawings of harps discovered by Bruce, Denon, and Belzoni in Upper Egypt.

Having explained the manner in which musical intervals were first supposed to have been discovered, and of their consequent formation into the earliest systems of sound upon record, it now remains to treat of others not less remarkable.

But as all music, in this early stage of history, partook in part of the nature of that adopted in the present day, i. e. of tones and half-tones, major and minor thirds, fourths and fifths, &c. the principles of the modern diatonic scale will be here best explained, that the nature of the modes or systems of sound, so often alluded to by ancient writers, and preserved by St. Ambrose, may be properly understood.

It may appear somewhat paradoxical, but many of the learned in matters of the earliest antiquity are by no means agreed upon the absolute nature of acuteness and gravity of musical sounds ; for, whilst some insist that acute ones were produced proceeding to the right, others with equal pertinacity maintain that they were produced to the left of the piano forte clavier, thus, apparently, involving into non-existence no less than one or other of the modern modes, till the scale of Pythagoras was formed and explained, whence philosophers not musicians, and musicians not philosophers, determined that all Greek music was written in minor modes, and that the Greeks knew nothing upon the subject of major modes. In proof of this assertion a quotation from Dr. Gregory's edition of Euclid will suffice. 'As the ideas of acuteness and gravity have, in nature no necessary connexion, it has happened accordingly that the most ancient of the Greek writers looked upon grave sounds as high, and acute ones as low ; and that this connexion was afterwards changed to the contrary by the less ancient Greeks, and has since prevailed universally. Probably the latter connexion took its rise from the formation of the voice in singing, which Aristides Quintilianus thus describes : *γίνεται δε η μιν βαρος καταθεν ανα φερομενα τα πνευματος, η δ' οξυτης επιπολησ ωρομενα*. Gravity takes place if the breath is carried upwards from the lowest part of the throat, but acuteness if it rushes forth from the higher part.' Beattie, too, upon this subject, very pertinently remarks, that 'to express the local elevation of objects by what we call high notes, and their depression by low or deep notes, has no more propriety in it than any other pun. We call notes high or low with respect to their situation in the written scale. There would be no absurdity in expressing the highest notes by characters placed at the bottom of the musical staff, and the lowest notes by characters placed at the top of it, if custom or accident had to determine. And there is reason to believe that something like this actually obtained in the musical scale of the ancients. At least it is probable that the deepest or gravest

sound was called *summa* by the Romans, and shriller or acutest *ima*; which might be owing to the construction of their instruments; the string that sounded the former being perhaps highest in place, and that which sounded the latter lowest. Yet some people would think a song faulty if the word heaven was set to what we call a low note, or the word hell to what we call a high one.' As it will hereafter appear, the explanation given by Pythagoras to the minor system was considered sufficient for that of the major one. This circumstance, together with others immediately connected with it, will tend to show that the ancient Greeks not only admitted of minor and major modes, but of ten others, besides those already described.

It will be recollected that the disposition of the strings, as given to the lyre of Mercury by Boethius, represents the perfect consonances of the fourth, the fifth, and the octave, and that the intermediate sounds D, E, and A, B, were left to the singer intuitively to intonate. These notes correspond to our major diatonic scale, thus: C D E F G A B C, composed of two disjoined tetrachords, differing only from the scale ascribed to Pythagoras, inasmuch as the notes of the disjoined tetrachords ascend by the same degrees the conjoined tetrachords descend, viz. by two tones and one half-tone, thus:

A G F E
E D C B which system, including the note

A below (see page 271), corresponds with our descending minor scale, called by the ancients *æolian*, hereafter to be explained.

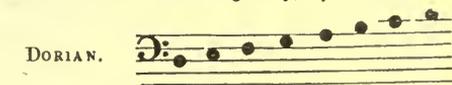
Our system also admits of conjoined tetrachords from the frequent occurrence of the following passages, the ground work of modern, as well as in a measure of ancient harmony, thus:



the key note, C, as the sun in the planetary system, forms the centre of gravity, upon which all

other sounds revolve; a system, or rather a language, at once the most natural to be conceived, and easily impressed upon the mind of every human being possessing a natural talent; or what is more generally termed an ear for music. To these arrangements of sounds, of which one forms the antecedent, and the other the consequent of a phrase, may be traced those daily melodic productions of amateurs totally ignorant of the principles of composition, the first parts of which prove often, on trial, more interesting than those of experienced musicians.

Viewing, as we do, the principles of melody, solely through the medium of two harmonic combinations of sound, we perceive that the places the half tones occupy in the scale is not a matter of caprice, but established by the Author of nature, which is likewise the case with every other note forming the diatonic major scale; were it otherwise, no two persons, accompanying themselves with the harmony of that scale, could sing the same intervals alike, nor would it be possible for harmony to exist as a science. We therefore recognise the intervals between the third and fourth, and seventh and eighth, as the places only for the half tones of the major, and, reckoning from acute to grave, between the third and fourth, and sixth and seventh intervals of the minor scale, making, in all cases, a series of sounds, rising or falling from any given pitch to its octave, by the diatonic degrees of five tones and two half tones, as in the examples 20 and 56. But such are our narrow notions upon the subject of music that we entertain no ideas of melody independently of harmonic rules; and, in the event of our meeting with these half tones in different situations than those prescribed by the major and minor scales, which is often the case in ancient melodies, we are taught to consider them as merely of an artificial description, or as constituting the art of composition. The ancient Greeks thought differently. Their views upon this, as indeed upon every other subject, were of a more enlarged and sublime description; and as, in all their works, they copied nature, they discovered, from her unerring principles, twelve species of the octave, naming each after different nations, the supposed inventors of them, viz.



In support of the authenticity of these modes, and, at the same time, for the better understanding of their peculiar melodic powers, as affects the passions of men, we will again avail ourselves of the melodies of Scotland, which, from their decided similarity with the modes in question, must have been written by musicians intimately acquainted with the earliest history of the Greeks, and of the principles of their extraordinary modes. Indeed, such is the nature of these melodies, one would almost be induced to believe that they were known by the Greeks themselves.

It is an axiom, in the composition of modern music, that all melodies should end with the

key-note of their harmonic treatment, i. e. if the piece be in D, the ultimate of the melody should also be in D. This is not the case with the generality of Scottish music, for the tune 'Scots wha hae,' as will be seen on reference to its printed editions, ends with the fifth above the harmonic treatment given to it. The notes composing the octave of that fifth being employed in the construction of that song, the half-tones falling between the third and fourth, and sixth and seventh notes, and the melody commencing and ending with its own key-note, instead of the one given to it by its various harmonisers, the melody is written in the mixt-Lydian-mode of the ancient Greeks, thus :

an indubitable proof of its authenticity and peculiar powers; powers not to be expressed invariably ending with the key note of a minor or a major scale. But, to show more effectually the

difference between this and the modern or Ionian mode, we will insert our national tune, 'God save the King,' thus :

which, if the reader will compare with that of 'Scots wha hae,' and the Grecian scales it will immediately be perceived, that, inasmuch as the ear and mind become satisfied with the key notes of each tune, the unity of each mode is strictly preserved, and their respective powers firmly established.

Every genuine Scottish melody, ending upon a different note to that of its harmonic treatment, will be found of Grecian origin, as the following extracts and analyses will clearly demonstrate. But it must be understood that although in the singing of glees, or pieces of music for four voices, it often happens that one of the singers, with the utmost delight and satisfaction to himself, will sustain the ultimate note as long as his lungs will permit, a third above instead of the key-note of the major or minor mode, it is deemed vulgar and incorrect, and must not be considered a process whereby the piece thus disfigured is turned into a Grecian mode; nor must it be understood that all melodies should be confined within the limits prescribed by each octave; on the contrary, some of them often exceed, whilst

others do not reach that extent, partaking, consequently, of the intervals of principal and subordinate, or, to use the technicalities employed by the church of Rome, of authentic and plagal. Hence these modes have been termed perfect, imperfect, and mixed, a circumstance accounting for the occasional appearance of notes below, as well as above the octave, both in Scottish melodies and in subjects of plain chants. The note most frequently sounded determines the nature of the mode or class to which the melody belongs.

The specimen we have next to adduce, will, in a remarkable degree, tend to illustrate the wide difference between the ancient and modern ways of thinking, upon the subject of musical keys, as we shall quote, in support of this hypothesis, no less than Haydn himself. On reference to page 101 of Preston's edition of Thomson's Scottish Songs, vol. iii., it will be seen that that great composer, from the harmonic nature of the specimen given him, as for example Brimmer's collection, and to which he was doubtlessly led to conform, considered himself

not only obliged to begin the song 'On Etrick Banks' in one key, but to end it in another of an opposite description; to give, however, something like unity to such incongruity of materials, he splices a symphony to answer the final note of the harmonic treatment! A cure for any doubts we may entertain upon the subject of the existence of Grecian modes, as well as for our predilection in favor of the immutability of the major and minor scales. The tune in question will be found, on reference to the foregoing scales, to be written principally in the Phrygian

mode; a mode as remarkable for the singularity and beauty of its intervals, as for rejecting, when employed in the construction of melody, all harmonic support,* the half tones falling between the first and second, and fifth and sixth notes; the lower ones (probably spurious) partaking of the Hypo or subordinate Phrygian, acting as replicates of the Phrygian mode (indicated by slurs), the last three measures occupying the whole extent of the Phrygian mode; indubitable proofs of the original design of the composer not to write in a major or a minor mode, thus:



The Æolian and Hypo-Æolian modes, transposed an octave higher, may express the above sounds, but no idea of a key note could be formed under such nomenclature. The accompaniment given by Haydn to this air begins in B minor and ends in D major. Now the necessity of such anomalous treatment, for neither the major nor minor scale is alone sufficient to express, either melodically or harmonically, the intervals of the above song, proves, beyond all possibility of doubt that such melodies were never intended to be accompanied. Of this description are the following 'O how can my poor heart,' begun in B ♭, and ended in E. 'Tibbie Fowler,' begun in D major and ended in D minor. 'Farewell ye Dungeons' begun in A and ended in E. 'O poortith cauld' (Kozeluch), begun in E ♭ and ended in C minor.

But, if merely to show how far human industry may succeed in giving these airs an accompaniment, it should be founded upon the principles observed in the composition of plain

chant (sotto il soggetto) of the Romish church; i. e. partaking only of the intervals peculiar to the modes to which the airs belong. To adduce another instance, in proof of the difference of opinion as to the proper mode of accompanying these airs, we notice that Weber in his arrangement of 'O poortith cauld' has begun as well as ended it in C minor, which, inasmuch as it corresponds in a measure with the Æolian mode, is judicious. Kozeluch, however, thought, or was advised to act differently.

The effect of the accompaniment given by Haydn to the third measure of the air 'O saw ye bonnie lassie' resembles an unexpected shock from a galvanic battery; an effect arising from the violent contortion of two dissimilar modern keys, within the pale of one only mode, which, in this instance is not in F major, with the absolute key of E ♭ introduced and even established in the third measure, a modulation known by every musician to be wrong, but simply in the Dorian mode, thus:



Now this singular melody cannot be in the key of G, because there is no F sharp, nor can it be in C any more than in A minor; the whole of the notes employed in its construction existing in the Dorian scale, and the melody beginning and ending with its own melodic key note. That the reader may judge for himself, as to the propriety of the accompaniment given by Haydn, and of the attempt to express its first four measures in two major modes bearing no affinity to each

* Let any composer harmonise the following passage, viz.



and we predict, that, however ingenious the accompaniment, it will be rejected as an alloy by no means satisfactorily amalgamating with the purity of the melody.

other, the air existing in one mode, we would recommend a reference to the original music. It were needless to remark upon the utter uselessness of succeeding efforts to accompany these and other similar airs, since, if nature had intended them to receive harmonic support, Haydn could not have failed in his endeavours to give them that uniformity and brilliancy of treatment which characterises all those Scottish melodies of his arrangement, which are proper to receive the principles of harmonic combination.

If we consider the eminently beautiful melody 'Here's a health to those far away,' in no other light than in C major, we must deem the key-note, together with its mode, of trifling importance; but a few moments reflection will show how artfully the composer leads, by his choice of intervals, the ear to anticipate the one and to dwell with pathos upon the other, which is also the mixt-Lydian, the favorite mode, perhaps, of the Scots. Kozeluch was well aware of the beauty of this melody; his treatment of the key-note resembles the purity of a twelfth produced by a generating string; a treatment far different from the enormous mass of accompaniment given to it by some of its pretended admirers. The powers of the mixt-Lydian mode, to express the intervals of the above song, can be doubted by no one. 'The little gems,' 'Och pretty Kate,' 'A highland lad,' 'Saw ye Johnnie coming,' if we may use the expression, are too Grecian not to be noticed. The following airs will also be found to have been constructed independently of harmonic rules, the final note of each indicating its own key-note, and that without the necessity of any formal introduction of the fourth of the key to establish, as in modern composition, its final cadence, viz. 'Our good king,' 'There's my thumb,' 'And O for one and twenty,' &c.

The intelligent musician, in his search for other specimens, will not fail, in his comparison of the melodies with the modes, to observe, occasionally, various spurious notes, introduced either by lovers of ornament ignorant of the principles of the modes, or by the first arrangers of them, or from a desire to accommodate them as much as possible to the rules of modern composition; as, for example, introducing the major seventh into the Æolian mode, instead of the minor seventh, the characteristic of that mode.

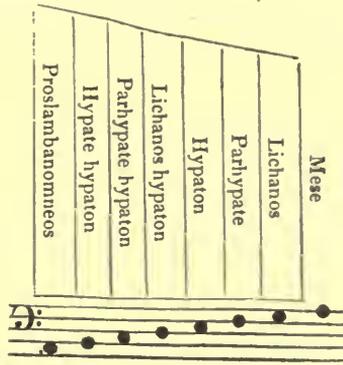
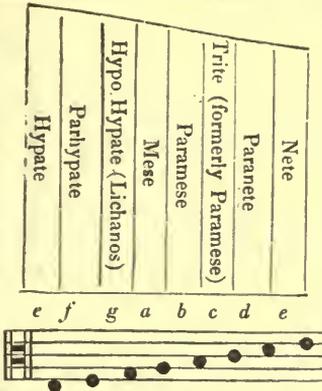
We have been thus particular in our description of the Grecian modes, feeling assured that in no work, ancient or modern, have they been noticed as fundamental principles in the formation of intelligible melody. Indeed, except for their employment in the chanting of the service by the primitive Christians, and as mere scales for the construction of counterpoint, no notice has been taken of them since the introduction of Christianity. Their celebrity previous to that time is known to every one.

The melodic powers of the Ionian and Æolian modes are, for the present, sufficiently explained. Their further discussion, involving the whole

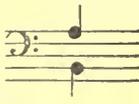
science of harmony, must be deferred till we arrive at that period of history in which we are informed of the introduction of Counterpoint. We will, however, merely observe, that as ten out of the twelve modes evidently require no accompaniment, and that as the intervals only of the mixt-Lydian-mode, and such as are employed in the tunes 'A highland lad,' and 'Saw ye Johnnie,' can alone be brought to amalgamate with the principles of modern harmony, it can no longer be a matter of surprise that so much should have been said by the ancient Greek and Roman writers upon the subject of melody, and so little upon that of harmony, according to our acceptance of that word. Nor can it appear extraordinary that, amongst the writings of the ancients, passages should have been thought applicable both to melody and harmony. For what are intervals employed in melody, requiring no accompaniment to support, but entirely dependent upon the key-note? And in what do they differ when employed in simultaneous combination? But whether the Greeks, who so wisely discriminated the melodic value and distinct powers of so many modes, as independently of the diminished fifth, to have rejected the following arrangement of the octave, viz. B C D E F G A B from the number of their authentic modes, could really know nothing of the harmonic powers of the Æolian and Ionian modes, together with the ascending major seventh, given by us to the former, he must be a first rate classic as well as a thorough musician to prove. It would, however, be desirable, that all interested in the science of music should reperuse the ancient writers upon the subject, keeping in view the distinct powers of the modes, separating, at the same time, the fundamental, or rather musical principles of declamation, as practised by the ancients; an art which, as it was totally of a different nature from the Dithyrambic species, formed the rock upon which the majority of writers have split.

Such is the scantiness of the materials afforded the musical historian, that with the exception of some extraordinary tales upon the powers and effects of the different modes, and of the adoption of other divisions of sound than those already described, principally to define the various inflections of the human voice in speaking, and to bring, as much as possible, to perfection the rules of declamation, we have but little of importance, or rather of an intelligible nature, to notice till the time of Euclid and Pythagoras, when, for the first time, all musica sounds were explained by mathematical demonstration.

In the following description of the celebrated octachord of Pythagoras, so often alluded to in the writings of the ancients, the reader will not fail to recognise the old Phrygian mode, derived from the ancient lyre of Orpheus, and therefore doubtlessly sung ages before the time of Pythagoras. It is, however, remarkable as showing the adoption of a new term to express the string originally designated *Paramese*, thus :



Pythagoras had established certain rules to find out the mathematical proportions of the consonances, when accidentally observing, as he passed a blacksmith's shop, that four hammers striking upon an anvil produced consonant sounds, as tuning forks would do if of proper sizes, he had them slung, and as they produced, when struck, precisely the same sound they emitted when in contact with the anvil, he had them weighed, when finding the smallest was six, the next eight, the third nine, and the largest twelve pounds, corresponding to the proportions he had previously adjudged between the consonances, he concluded that the octave should be divided into twelve semitones. Pythagoras also, we relate the events as they are told us, perceiving that the extreme sounds of two conjoined tetrachords produced a dissonance, viz. added a note below, calling it proslambano menos, implying an added string, i.e. A, the first space upon the bass staff, thus:



As all sounds beyond the octave, in modern harmony, are replicates of the primary one, the lyre, simple as it appears, was capable of expressing every essential sound. No wonder, then, that it should have been held, by the ancient Greeks, in such esteem. But, as it did not reach the whole extent of the human voice another octave was added. This circumstance gave rise to the term flat, as the alteration of the diatonic into the chromatic tetrachord introduced that of sharp, thus: E F F ♯ A, consisting of a half-tone, a minor semitone, and a minor third; the term flat arose from the necessity of making a half-tone from the mese A, the fifth line bass staff, thus: A B ♭ C D, to form a diatonic tetrachord, and a perfect fourth from the F below, thus: F B ♭. The system of conjoining tetrachords, of which the fourth was always a perfect one, formed, together with the new enharmonic or quarter-tone division of sound, the sum and substance of the Greek immutable system, the double octave from A, the first space bass-staff to A, the second of the treble staff; thus, as divided into five hexachords by Forkell, viz.

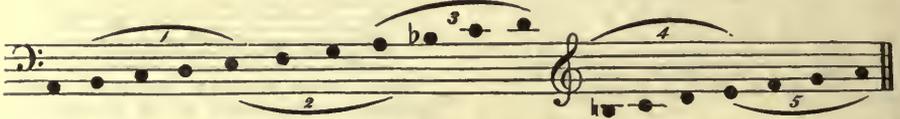
The Diatonic, Chromatic, Enharmonic Scale of the ancients.

28	Nete hyperbolæon (second space treble staff)	.	.	.	a
27	Paranete hyperbolæon diatonos	.	.	.	g
26	Paranete hyperbolæon chromaticæ	.	.	.	g flat or F sharp.
25	Paranete hyperbolæon enharmonios	.	.	.	f
24	Trita hyperbolæon	.	.	.	e × enharm. F ♭.
23	Nete diezeugmenon	.	.	.	e
22	Paranete diezeugmenon diatonos	.	.	.	d
21	Paranete diezeugmenon chromaticæ	.	.	.	d flat c sharp
20	Paranete diezeugmenon enharmonios	.	.	.	c
19	Trita diezeugmenon	.	.	.	b × enharm. C ♭.
18	Paramese (space above the bass staff)	.	.	.	b natural.
17	Nete synemmenon (space below the treble staff)	.	.	.	d
16	Paranete synemmenon diatonos	.	.	.	c
15	Paranete synemmenon chromaticæ	.	.	.	c flat b natural.
14	Paranete synemmenon enharmonios	.	.	.	b flat.
13	Trita synemmenon	.	.	.	a × enharm. b flat.
12	Mese	.	.	.	a
11	Lichanos meson diatonos	.	.	.	g
10	Lichanos meson chromaticæ	.	.	.	g flat f sharp.
9	Lichanos meson enharmonios	.	.	.	f
8	Parhypate meson	.	.	.	e × enharm. f flat.
7	Hypate meson	.	.	.	e
6	Lichanos hypaton diatonos	.	.	.	d
5	Lichanos hypaton chromaticæ	.	.	.	d flat c sharp.
4	Lichanos hypaton enharmonios	.	.	.	c
3	Parhypate hypaton	.	.	.	b × enharm. c flat
2	Hypate hypaton	.	.	.	b natural.
1	Proslambanomenos (first space bass staff)	.	.	.	A

Excluding from this extraordinary system the enharmonic or quarter tone division, and retaining the, to us, more intelligible portion of it,

we obtain the celebrated system of Aristoxenus, thus :

Proslambenomenos.
 Hypate hypaton.
 Pachypate hypaton.
 Lichanos hypaton.
 Hypate meson.
 Pachypate meson.
 Lichanos meson.
 Mese.
 Tritē synemmenon.
 Paranete synemmenon.
 Nete synemmenon.
 Paramese.
 Tritē diezeugmenon.
 Paranete diezeugmenon.
 Nete diezeugmenon.
 Tritē hyperbolaon.
 Paranete hyperbolaon.
 Nete hyperbolaon.



The inversion of this order of sounds produces the modern major system, thus :



Aristoxenus, considering the ear the sole arbiter of musical intervals, was opposed to Pythagoras, who, on the contrary, thought the ear no more capable of deciding upon their nature than the eye of forming a circle without compasses. Ptolemy, endeavouring to steer a middle course, did but little service to the cause he espoused. There were other chiefs of sects, as Epigonus, Damon, &c.: the former was the inventor of an instrument called after him the Epigonium, mounted with forty strings.

Such was the state of the fundamental scale of music up to the time of Guido Aretinus, who flourished in the eleventh century, when the principles of music underwent a thorough reformation. Of the most celebrated writers of the ancients, Aristoxenus, Euclid, Nichomachus, Alypius, Martianus, Capella, Guadentius, Bacchius the elder, Aristides, and Ptolemy, are the principal; editions of whose works have been given to the public with notes by Meibomius and Dr. Wallis.

Of the various specimens of ancient Greek music, mentioned by different writers, but four, in their supposed original notation, have been transmitted to us. For their elucidation we are chiefly indebted to the exertions of Monsieur Burette. Three of them are hymns addressed to Calliope, Apollo, and Nemesis; they were found among the papers of the celebrated archbishop Usher, in Ireland. As the musical note, generally speaking, is set to each syllable of the poetry, they are termed Syllabic compositions: not melismatic, a species of music said, though incorrectly, to have been unknown to the ancient Greeks. The fourth specimen was found in a monastery near Messina by Kircher, the words consisting of the first eight verses of the first Pythic Ode by Pin-

dar; the musical characters corresponding to those attributed by Alypius to the Lydian mode, which Plato tells us was so peculiarly adapted to inspire tender affections, that he forbade the use of it in his republic.

As a specimen of the intervals with which the ancient melodies are said to have been composed, the musical reader may select Dr. Burney's version of Burette's translation of the hymn to Calliope. We are aware, however, that although originally written in the Lydian mode, the tender affections of the reader will be the last to be awakened in its performance. No two notes, with the exception of the seventh line, connecting so as to form even the shadow of a musical idea throughout the piece, a circumstance quite sufficient to disprove its genuineness.

The intervals chosen for the translation of this hymn being of Phrygian instead of the Lydian import, it may well have been cited in disproof or ridicule of the boasted virtues of Grecian music, as also of its utter impracticability of receiving harmonic support.

Following, however, the majority of opinions expressed upon the subject of the intervals as they constitute the different Grecian modes, and viewing their varied powers through the medium of nature rather than of speculations of authors determined to make all Greek music of an unintelligible nature, we are enabled to present our readers with a translation of this once celebrated hymn in a shape both genuine and satisfactory. The Lydian powers maintaining still their influence over mankind, all the quotations and hypotheses, entertained by a variety of writers, in proof that Grecian music was of a nature totally opposite from that of the present day, are overturned.

The Hymn to Calliope, translated from the original Greek characters and harmonised by J. F. DANNELY.

Oxford MS. C Z Z φ φ φ C C * * * * φ M M Z Z Z Z N
 Florence MS. C Z Z φ φ * C C * * * * | φ M M Z Z Z E Z

Α ε δε μ η σα μοι φ η λ η Μολ π ε ς δ με ς κ ι τα ρ χ η Α υ ρ η δε σ ω ν ακ
 N I I M Z N * φ C P M φ C * P M * * φ *
 Z I I M Z N I φ C P M φ C C P M P C φ P

α λ σε ω ν Ε μ α ς φ ρ ε ν α ς δ ο η ε ι τ ω Κα λ λ ι ο πε ι α σο φ α
 φ N C C C C C T R φ P φ C * M I M
 φ N C C C C * Z R φ P φ C P M I M

Μ ε σ ω ν προ κα τα γε τι τερ π ω ν και σο φ ε μυ ρ ο δ α τα
 M I E Z Γ M P C M * M * Z M φ C C
 M I E Z Γ M P C M I M I Z M φ C C

Λ α τ ς γ ο ν ε Δ η λ ι παι α ν Ευ μ ε ν ι ς πα ρ ε σε μοι

Whilst many critics, supported by various authors of reputation, will be disposed to doubt the genuineness of this specimen, together with its harmonic treatment, there will not be found wanting advocates backed by Doni, Zarlino, Tevo, Eximenes, Stillingfleet, and a host of other equally celebrated authors, to support it. Besides these authorities, we may cite in support of this translation the admissions of Padre Martini; Burette and Kircher, who, though foremost to deny to the ancient Greeks the perfect knowledge of harmony, have, together, condescendingly admitted, that they did employ occasionally the consonances of the fourth, the fifth, the third, and the octave. To remove any doubt arising in the mind of the reader, as to the musical import of the characters, were easily effected by

analogy. For instance, an antiquary, succeeding so far in his attempt to decypher the hieroglyphics of Cleopatra's needle as to make out a sentiment at once beautiful and complete in all its parts, thinks himself justified in using the same means for the translation of the remainder, and no doubt arises in the mind of any one as to the genuineness of the effects produced, or of the fitness of the means employed, if they enable the antiquary to decypher the whole of those hieroglyphics with equal consistency and truth. Paley's description of the stone found upon the desert aptly serves to illustrate the justness of this conclusion.

That instinct which teaches us to intonate the intervals of our diatonic major scale with justness, without the help of mathematical theorems

must have been known to the ancient Greeks from the perfection of their organs, and happier disposition, as compared with ours to receive the principles of music. Why then deny them that which teaches individuals, ignorant of the rudiments of harmony, but possessing a good ear, to sing a third above, or a sixth below a given subject, sung or performed by instruments? A chorus of forty voices, singing in octaves, accompanied by instruments playing in unison with the voices, could not always have been considered grateful or satisfactory either to the mind or ear. Fugues, a species of artful music, considered by some the perfection of modern music, and other compositions of the present day, which, rather than as the efforts of men inspired by genius to invent melodic phrases, one would be induced to believe, from their similarity, were cast in one common mould, would have been rejected by the ancient Greeks, because, in all their works, they copied nature. As their compositions were characterised by a moderate use of dissonances, we may conclude that all subordinate parts were intended intimately to support the principal design or melody. The voices employed in the chorusses of the ancients were tempered one with another, forming that happy assemblage of sweet sounds at all times insuring perfect expression. Inconcinuous intervals or dissonances, being an embellishment of nature whereby she gives beauty to the concinuous ones, or consonances, they must always have been employed, since, without such means, in the composition of melody or harmony, no continuity of design could have been produced. The Greeks therefore employing such intervals as seventh and fourth considered them as dissonances, requiring, as in modern theory, ultimately to ascend or descend one degree, to complete the melody or harmony, without knowing the cause, or troubling themselves with reasonings upon such progressions of sounds by mathematical deductions, which, in musical matters, are not exactly to be depended upon.

It will undoubtedly appear extraordinary that, during the number of centuries the Greeks flourished, they should not have discovered a more simple method of notation than the one explained in the description of their musical chords. These names, being found too troublesome for general use, were succeeded by letters of the alphabet, some turning upwards, and others side-ways, some cut in halves, &c., thus:

Vocal.	Instrumental.	Vocal.	Instrumental.
7	Γ	Z	Π
7	Τ	Γ	Ν
R	Λ	Ϛ	Z
Φ	F	E	λ
C	C	ϙ	η
P	C	ϙ	η
M	∟	λ	λ
I	∟	M	∟
Θ	V	I	∟

As all analogy in the modes, we are told, was out of the question, these signs were augmented to the number of 1860, a circumstance full warranting Plato's observation that it required three

years hard study to know the musical characters and to play a tolerable accompaniment upon the lyre. The Romans followed this plan up to the time of Boethius, who made a great reduction, employing instead, fifteen Latin letters. Pope St. Gregory in his turn reduced them to eight, viz. A B C D E F G H, the letter H expressing, as at present in Germany, the sound B natural, as B that of B flat.

The music of the ancients being governed entirely by the rhythmical structure of their words, or of the long and short syllables composing them, thus: - o. The Greeks were perhaps unacquainted with the art of using signs to express both variety and duration of sound. To suit, therefore, the precise nature of these long and short syllables, we are obliged, in our translations of the ancient specimens of music, to change the time alternately into Binary and Ternary measure. Nevertheless the hymn to Calliope is susceptible of being expressed according to the rules of modern rhythm. It is one of the most beautiful compositions in the school for which it was composed, and might with advantage be studied by the pupil in the present day.

The more extended phraseology, in certain parts of this arrangement, reminds us strongly of the nature of some of Beethoven's movements in three-eight time. But, associating the sounds with the word, it must be confessed that the system of changing the time, to suit the rhythmical structure of the word, adds to, rather than lessens, the beauty of the hymn. Indeed the oftener it is heard in the original form, the more it will be found to resist the attention of the hearer. The sevenths, marked thus †, are worthy the genius of Mozart; the asterisks denote the cæsuras.

Much was expected, upon this and various other subjects, from the manuscript of Philodemus presented to his majesty George IV. by the king of Naples, discovered among the ashes of Herculaneum and Pompeii, but unfortunately destroyed in the process of unrolling. From the contents, however, of a few fragments preserved, it is considered to have been merely a dissertation upon music after the manner of Boethius. Whether future excavations will bring to light other manuscripts of the ancients, buried for the last 1900 years, is a matter of great importance to the science we treat upon, since, without them, or others from different sources, little can be known for certain as to the degree of perfection to which the Greeks and Romans brought their music.

But if the Greeks were deficient in the art of notation, more particularly of instrumental music, it must be allowed that their melopœia comprised every thing that could be desired with respect to the invention of melody in its application to poetry. Of the extraordinary effects upon the minds and passions of men accustomed to sounds produced from musical instruments, particularly when accompanying sentiments of the noblest description, and sung by the wisest philosophers, poets, and musicians of the first order, some of them may be too easily imagined to be doubted.

Although the little figure of Apollo playing upon a kind of violin with something like a bow, and supposed by Addison and others to be an antique, may have been disproved by Winkelman, it does not follow that the violin should have been unknown to the ancients; on the contrary the nature of the hurdy-gurdy, the sambuca or barbiton of the ancient Greeks, sufficiently attests the previous adoption of the violin or some such instrument: the bow was drawn by the hand across the string long before the friction of a wheel was fixed upon for that purpose. The ancient violin differed from the modern one only in the neck, which was much shorter.

The flute, by having been ascribed to Apollo, Pallas, Mercury, and Pan, sufficiently vindicates its own antiquity. Hyagnis, 1500 years before Christ, is named as the first performer of celebrity. Athenæus gives to Numidias the invention of the flute of one tube; to Silenus that of several tubes; to Marsyas the flute with a reed. Phrygian flutes, as the monaulos of Egypt, were curved and intoned with a reed, as the modern hautboy, see fig. 9, plate IV. The ancients kept their reeds in boxes called *glossocomeia*, reed or tongue boxes. There is another species of Egyptian flute, taken from a dancing figure found at Eschmin. The *avena*, made of an oat straw, was blown at the top. The *aolamus pastoralis* was composed of reeds united together; to this a horn was sometimes attached, as in fig. 10, in the shape of a *lituus*. The *fistula Panis* was usually composed of reeds tied together. Foster, in his voyage round the world, found an instrument of this kind in the Friendly Islands. The Chinese have a similar one called the *Ching*. See *CHING*. Various ancient flutes may be seen in Dr. Burney's great work on music. Fragments of flutes formed of bones have been also discovered in the ashes of Herculaneum, and preserved in the Vatican.

When the process of forming artificial tubes was known, flutes were made of box-wood, ivory, copper, and even gold. The most ancient flute of the Hebrews was the *agada*, the form shown in plate V., fig. 1: This instrument, being used at ceremonies of a different nature from that in which the lyre was employed, was made also with a view of imitating the various compasses of the human voice, varying in size as shrill or deep sounds were required. Wind instruments possessing deep tones, increasing in size towards the bottom, were termed horns, as the seven mentioned in Joshua, made of a bull or a ram's horn. A species of *lituus* made of metal is shown plate V. fig. 2, another of the *monaulos*, derived probably from the Chinese *busciend*, shown fig. 3, plate V. The *cornu venatorium*, the origin of the serpent, made of metal, was of nearly the modern form, see plate V. fig. 4. A curious specimen of a horn with two mouth-pieces, as if to be blown by two persons, is seen fig. 5. Bass flutes, or kinds of bassoons, the two latter with one key each, were sometimes employed by the ancients. The singular instrument fig. 6 is supposed to have been a flute. Dr. Burney considers the instrument fig. 7 to have been the *clangor tubarum*.

used by Alexander the Great. This as well as some other specimens was dug from the ruins of Herculaneum, and is made of ivory, similar in appearance to an organ pipe. The projections or keys, originally termed *bombykas*, upon these tubes, were movable, to alter their diapason or extent, and by this arrangement their compass was very considerably increased.

From instruments having no such projections, different degrees of sound were produced by the motion of the mouth, as from the trumpet. The *suckbut*, of the trumpet species, was also found among the ruins of Herculaneum or Pompeii, the lower part made of bronze, the upper part and mouth-piece of solid gold. In quality of tone it has not been equalled by any of modern manufacture. This instrument is in the possession of his present majesty. A *lituus* or octave trumpet was in the possession of Sir Joseph Banks.

At the Olympic games the trumpet-players expressed an excess of joy when they found their exertions had neither rent their cheeks nor burst their blood-vessels: some idea may hence be formed of the noisy and vociferous style of music which then pleased.

On the precise nature of the ancient double flutes, derived from the Egyptians, and of which various specimens are still in the possession of the curious, authors are by no means agreed. The symphony, a concert resulting from two equal flutes, was composed of unisons, when the fingers of each hand stopped the same holes. From expressions annexed to the titles of some of Terence's comedies, we learn that they were represented to the sound of equal and unequal flutes, right and left. The *Andria* was accompanied with equal flutes right and left; the *Self-tormentor* with unequal flutes. The performer played upon two flutes at the same time, and placed round his mouth a bandage, that the cheeks might not protrude, and for the better management of the breath. The right flute with two bores produced low sounds, the left had several bores and produced high sounds. Double flutes, the tubes of which were of different lengths, as seen in figs. 7, 8, if intoned together, would produce sounds of different pitch. Some authors consider the larger tube to act as the drone of a bag-pipe, others that both tubes were used to represent together the sounds of two different modes.

thus: E F G A B C D E
C D E F G A B C. producing harmonic combinations of thirds. But, as the subject of the piece performed often required a change of mode, others consider that these tubes were sounded alternately, and that they were joined together, because that was the most expeditious way of accompanying the actor or singer.

The traverse or German flute was known to the ancients. The flute used by Ismenias, a celebrated Theban musician, cost at Corinth three talents, or £581. 5s. The ancients were not less extravagant in gratifying the ministers of their pleasures than ourselves. *Amœbæus*, a harper, was paid an attic talent, or £193. 15s. per day for his performances. *Roscius* had 500 sesteritia, or £4036. 9s. 2d. sterling a-year. The beautiful *Lamia*, who was taken captive by *Demetrius*, when he vanquished *Ptolemy Soter*, and

Fig. 1.



Fig. 2.

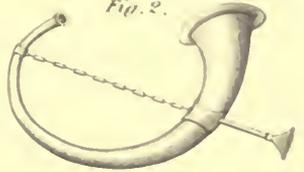


Fig. 5.



Fig. 4.

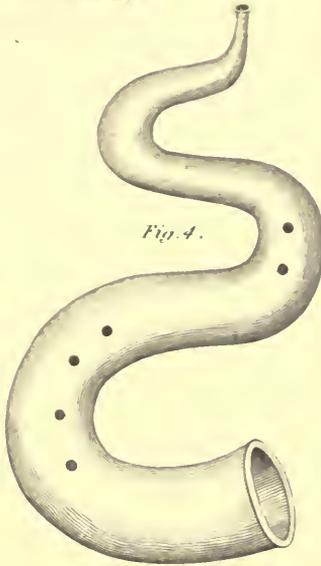


Fig. 13.

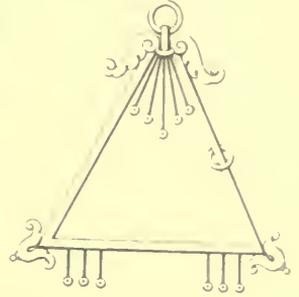


Fig. 3.



Fig. 7.

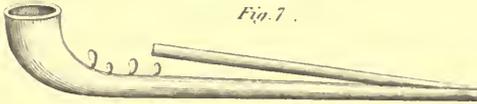


Fig. 9.

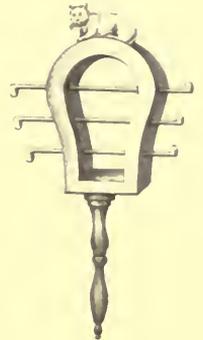


Fig. 8.

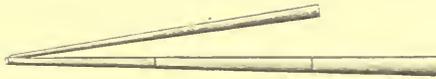


Fig. 11.

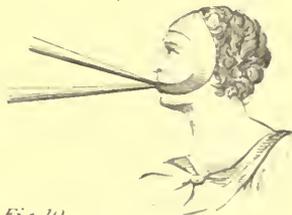


Fig. 6.

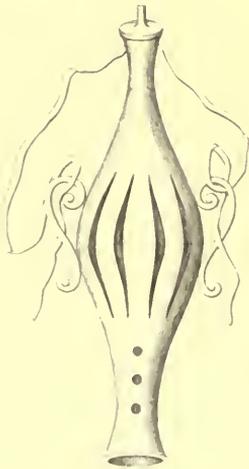


Fig. 12.

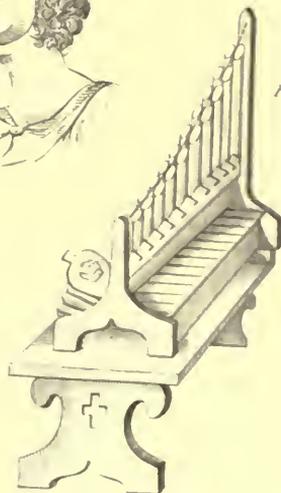


Fig. 10.

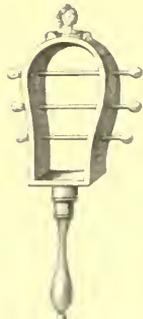


Fig. 1.

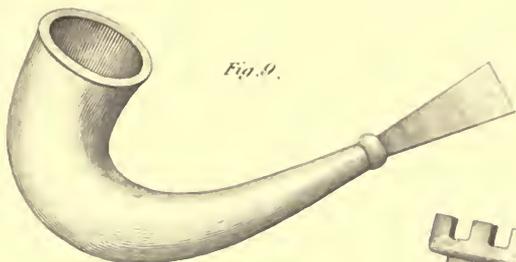
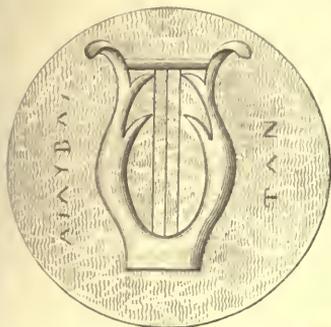


Fig. 9.

Fig. 7.

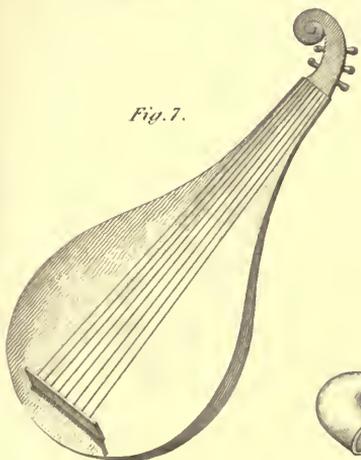


Fig. 3.

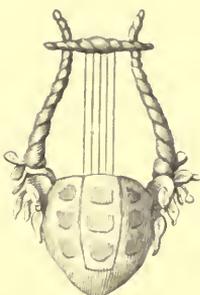


Fig. 5.

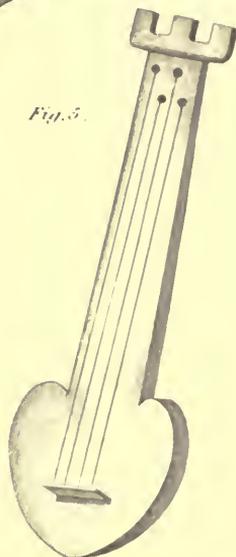


Fig. 10.

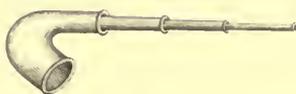


Fig. 2.

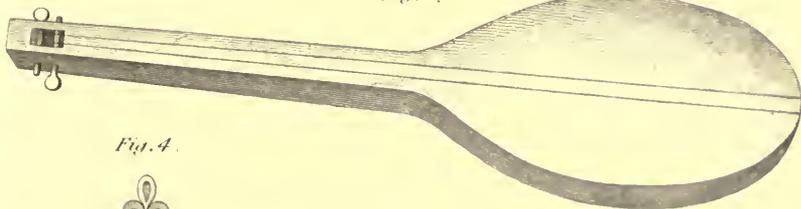


Fig. 4.

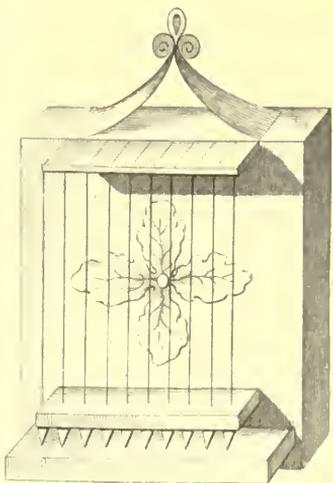


Fig. 6.

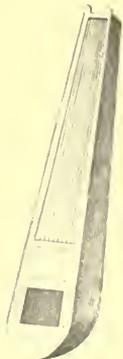
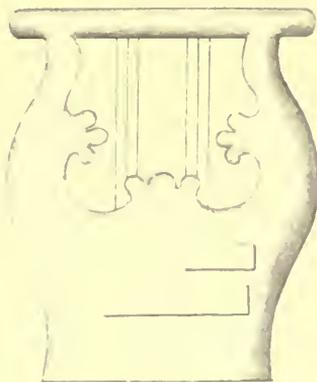


Fig. 8.



who captivated her conqueror, with many other female musicians, are recorded by ancient authors in terms of admiration. The philosophers of Greece were not inattentive to the theory of music. This science became the source of various sects, and of much diversity of opinion. The founders of the most distinguished sects were Pythagorus and Aristoxenus. Clonas is named as the first composer of celebrity for the flute, and his compositions for that instrument were considered superior to those of every other composer of the period.

Other species of instruments, common to the ancients, were of a rhythmical nature, being used to mark the cadence and rhythmical divisions of their dances, verses, and of airs accompanying them; as the *tabret*, the origin of the tambourine; the *sistrum*, plate V., figs. 9 and 10; the *ludere catenas*, the *cymbals*, the drum, tambour, &c. From the enormous size of the ancient theatres, Vitruvius informs us that vases, corresponding to the degrees of the octave, were placed in different parts of them, to assist the performers, and to which the voice of the singer was occasionally directed for assistance in the distribution of its tones. This accounts for the necessity of adopting, on certain occasions, double flutes, such as shown in fig. 11, instead of single ones, also of the performers' wearing bandages; quantity, not quality, of tone, being the principal object of their care. History informs us of several individuals who have died in their efforts to display their powers on their respective instruments.

The walls of Herculaneum and Pompeii abound with beautiful forms of organs, and we often meet with descriptions of them in the writings of the ancients, as the clepsydra, &c. They were, however, reserved for the cabinets of the curious, and not generally introduced into churches till the beginning of the ninth century, when they were of the form of fig. 12, the bellows resembling those used in blowing fires. In the *Anthologia*, ascribed to the emperor Julian, who flourished in the year 364, is seen the following account of an organ:—'I see reeds of a new species, the growth of another, a brazen soil, such as are not agitated by the wind, but by a blast from below their roots, whilst a robust mortal, running with swift fingers over the concordant levers, makes them, as they swiftly dance, emit melodious sounds.' In the gardens of Mathei, in Rome, a figure in bas-relief is seen of a cabinet organ, of which the bellows are, in appearance, like those before described, blown by a man behind the cabinet, and the clavier played by a woman. In the epistle of Dardanus, ascribed to Hieronymus, an organ is represented with twelve pairs of bellows, the wind-chest formed of the skins of two elephants, the noise from which might be heard at the distance of 1000 paces; Mersennes considers it a species of bag-pipe, and to be the origin of the organ. It does not appear, however, that any of the ancient organs comprised more than one set of pipes. Fig. 13 is an ancient species of triangle; in which the tones were produced by balls and rods, as well as the triangular bars.

By comparing the accounts of Diodorus Siculus and of Plato, says the ingenious Mr. Morison, there is reason to suppose, that in very ancient times the study of music in Egypt was confined to the priesthood, who used it only on religious and solemn occasions; that, as well as sculpture, it was circumscribed by law; that it was esteemed sacred, and forbidden to be employed on light or common occasions; and that innovation in it was prohibited; but what the style or relative excellence of this very ancient music was, there are no traces by which we can form an accurate judgment. After the reigns of the Pharaohs, the Egyptians fell by turns under the dominion of the Ethiopians, the Persians, the Greeks, and the Romans. By such revolutions, the manners and amusements of the people, as well as their form of government, must have been changed. In the age of the Ptolemies the musical games and contests instituted by those monarchs were of Greek origin, and the musicians who performed were chiefly Greeks.

The curious relic of antiquity called the Dichord deserves to be described because it affords better evidence than, on the subject of ancient music, is usually to be met with, that the Egyptians, at so very early a period of their history, had advanced to a considerable degree of excellence in the cultivation of the arts. By means of its neck, this instrument was capable, with only two strings, of producing a great number of notes. These two strings, if tuned fourths to each other, would furnish that series of sounds called by the ancients heptachords, which consists of a conjunct tetrachord as B, C, D, E: E, F, G, A; if tuned fifths, they would produce an octave, or two disjunct tetrachords. The *calacione* is tuned in this last manner. The annals of no other nation than Egypt, for many ages after the period of the obelisk at Heliopolis, exhibit the vestige of any contrivance to shorten strings during the performance by a neck or finger-board. Father Montfaucon observes, that after examining 500 ancient lyres, harps, and citharas, he could discover no such thing.

'The *Hermes* of the Egyptians,' continues Mr. Morison, 'surnamed *Trismegistus*, or thrice illustrious, who was, according to Sir Isaac Newton, the secretary of Osiris, is celebrated as the inventor of music. No one person ought strictly to be called the inventor of an art which seems to be natural to, and coeval with, the human species; but the Egyptian Mercury is without doubt entitled to the praise of having made striking improvements in music, as well as of having advanced in various respects the civilization of the people, whose government was chiefly committed to his charge.'

'The *monaulos*, or single flute, called by the Egyptians *phoinix*, was probably one of the most ancient instruments used either by them or any other nation. From various remains of ancient sculpture, it appears to have been shaped like a bull's horn, and was at first, it may be supposed, no other than the horn itself. Before the invention of flutes, as no other instruments except those of percussion were known, music must have been little more than metrical. When the art of refining and lengthening sounds was discovered

the power of music over mankind, from the agreeable surprise occasioned by soft and extended notes, was probably irresistible. At a time when all the rest of the world was involved in savage ignorance, the Egyptians were possessed of musical instruments capable of much variety and expression. Of this the astonishing remains of the city of Thebes, still subsisting, afford ample evidence. In a letter from Mr. Bruce, ingrossed in Dr. Burney's History of Music, there is a particular description of the Theban harp, an instrument of extensive compass, accompanied with a drawing taken from the ruins of an ancient sepulchre at Thebes, supposed by Mr. Bruce to be that of the father of Sesostris.

'On the subject of this harp, Mr. Bruce makes the following striking observation: 'It overturns all the accounts of the earliest state of ancient music and instruments in Egypt, and is altogether, in its form, ornaments, and compass, an incontrovertible proof, stronger than a thousand Greek quotations, that geometry, drawing, mechanics, and music, were at the greatest perfection when this harp was made.'

'It cannot be doubted, according to Mr. Bruce, that during the reigns of the Ptolemies music must have been much cultivated. The father of Cleopatra, the last of that race, derived his title of *auletes*, or fluteplayer, from his excessive attachment to the flute. Like Nero, he used to array himself in the dress of a *tibicen*, and exhibit his performance in the public musical contests.

'The Scriptures afford almost the only materials from which any knowledge of Hebrew music can be drawn. Moses, who led the Israelites out of Egypt, was educated by Pharaoh's daughter in all the literature and elegant arts of that country. The taste and style of Egyptian music would therefore be infused into that of the Hebrews. Music appears to have been interwoven through the whole tissue of religious ceremony in Palestine. The priesthood seem to have been musicians hereditarily and by office. The prophets accompanied their inspired effusions with music; and every prophet seems to have been accompanied by a musical instrument. Music, vocal and instrumental, constituted a great part of the funeral ceremonies of the Jews. The number of flute-players in the processions amounted sometimes to several hundreds, and the attendance of the guests continued frequently for thirty days.' *Josephus*, l. 3, c. 9

The Hebrew language abounds with consonants, and has so few vowels that in the original alphabet they had no characters. Their instruments of music were chiefly those of percussion; so that, both on account of the language and the instruments, the music must have been coarse and noisy. The vast numbers of performers, too, whom they collected together, could, with such language and such instruments, produce nothing but clamor and jargon. *Josephus* says, there were 200,000 musicians at the dedication of Solomon's temple

Cadmus, with the Phœnician colony which he led into Greece, imported at the same time various arts into that country. That chief dis-

covered gold in Thrace and copper at Thebes, where it is still termed *cadmia*. Of these materials, and of iron, they formed instruments of war. These they struck against each other during their dances at sacrifices, by which they first obtained the idea of instrumental music. Such is the origin of that species of music in Greece, produced by instruments of percussion. The invention of wind instruments is attributed to *Minerva*; and to the Grecian *Mercury* is assigned the honor of many discoveries probably due to the Egyptian *Hermes*, particularly the invention of stringed instruments.

It has been imagined that the occupation of the first poets and musicians of Greece resembled that of the Celtic and German Bards, and the Scalds of Iceland and Scandinavia. They sung their poems in the streets of cities and palaces of princes. They were treated with high respect, and regarded as inspired. Such was the employment of *Homer*. His poems exhibit the most authentic picture of the times of which he wrote, and in which he lived. Music is always named throughout the *Iliad* and *Odyssey* with rapture. The instruments most frequently named are the lyre, the flute, and the *syrix*. The trumpet appears not to have been known at the siege of *Troy*. From the time of *Homer* till that of *Sappho* only a few fragments remain of the works of those poets and musicians who flourished between those periods. During the century which elapsed between *Sappho* and *Anacreon*, no literary productions are preserved entire. From *Anacreon* to *Pindar* there is another chasm of nearly a century. Subsequent to this time, the works still extant of *Æschylus*, *Sophocles*, *Euripides*, *Plato*, *Aristotle*, *Aristoxenus*, *Euclid*, *Theocritus*, *Callimachus*, *Polybius*, &c., produced all within less than 300 years, distinguished this illustrious period, as that in which the whole powers of genius seem to have been exerted to illuminate mankind. Then eloquence, poetry, music, architecture, history, painting, sculpture, like the spontaneous blossoms of nature, flourished without the appearance of labor or of art. The poets, epic, lyric, and elegiac, were all likewise musicians, so strictly connected were music and poetry for many ages.

The invention of notation and musical characters marked a distinguished era in the progress of music. *Terpander* is the celebrated poet and musician to whose genius music is indebted for this. He flourished about the twenty-seventh olympiad, or A. A. C. 671. Before that valuable discovery, music, being entirely traditional, must have depended much on the memory and taste of the performer.

The Romans, from their first origin, were possessed of a peculiar species of music. It was rude and coarse; but, as soon as they opened a communication with the Greeks, they borrowed their music and musical instruments. The excessive vanity of *Nero*, with respect to music, displayed in his public contentions with the most celebrated professors of the art in Greece and Rome, is well known. See *Nero*. The solicitude with which that detestable tyrant attended to his voice, throws some light on the practices

of singers in ancient times. He lay on his back, with a thin plate of lead on his stomach. He took frequent emetics and cathartics, abstained from all fruit, and such meats as were held prejudicial to singing. He desisted from haranguing the soldiery and the senate; and established an officer (Phonascus) to regulate his tones in speaking.

Most nations have introduced music into their religious ceremonies. That the art was early admitted into the rites of the Egyptians and Hebrews, and constituted a considerable part of the Grecian and Roman religious service, appears from many ancient authors. It soon obtained an introduction into the Christian church, as the Acts of the Apostles discover in many passages.

Saint Ambrose, in order to establish certain principles upon the subject of plain chant, then falling into great disrepute, selected out of the twelve Grecian modes, four of them, viz. the Dorian, the Phrygian, the Lydian, and the Mixt-Lydian mode (see page 267). Upon these modes the psalms and other parts of the divine service were chanted or sung, and the melodies of the Victima Paschalis, Plange Lingua, the inno or sacred song, and the dies iræ composed; compositions then of established reputation. The music of the primitive Christians, it is generally understood, consisted only of melody, and, as no other rhythm was observed by them than that of discourse, it was purely syllabic, partaking of recitative, till the time of St. Ambrose and St. Augustin, who first introduced the system of singing two or more notes upon one syllable, thus: with Meibomus's translation.

Vocal ♩ e Ω Ω Ω e Ω X T X Ω
 Instrum. E † ♪ ♪ ♪ † ♪ ♪ ♪ ♪

Te de um lau da mus.

This ancient composition, though composed so early as the year 350, is still performed in the Roman church, but, unfortunately for the cause of music, we have not been able as yet to ascertain the precise nature of the instrument that was used to accompany the singing of it. But, of whatsoever nature this instrument partook, we are positively informed that species of interludes and finales, or instrumental conclusions of chants, were adopted in the time of St. Ambrose from the following remarkable passage taken from his works, 'that not being able to find words worthy of pleasing God, we ought to address him with confused notes of jubilation; for to whom belongs such jubilation without words, if not to the ineffable Being? and how should we celebrate the ineffable Being, when we neither can be silent, or find how to express our transports, unless it be in inarticulate sounds?'

* It has been asserted that harmony must have been unknown to the ancients, because each of their musical characters, vocal or instrumental, was the sign only of one sound. May it not also be said, and indeed with much more propriety, in after ages,

But, as the limits of the foregoing modes were found of too confined a nature, pope St. Gregory, the restorer of ecclesiastical music in the West, extended these means, and, for that purpose, availing himself, as it is fabulously recorded, of divine inspiration, revealed to him by a dove, or rather of the observations of Boethius, who wrote a treatise upon music, employed all the intervals of the ancient Greek double octave (see page 267), and thereby restored the four subordinate modes termed Hypo-Dorian, Hypo-Phrygian, Hypo-Lydian, and Hypo-Mixt-Lydian (see page 267); the Prosclambanomenos of which was fixed upon the lowest clear and firm note of the voice, or instrument, that was supposed to be the deepest settled pitch in nature, adopted freely to express it.

Modes were now by way of distinction termed authentic and plagal, i. e. principal and subordinate; the former being harmonically divided, that is, by a fifth from the lowest, and a fourth from the highest, thus:

	A D		D A
Authentic fifths	E B	authentic fourths	B E
	F C		C F
	G D		D C

And the latter arithmetically divided, i. e. by a fourth from the lowest and a fifth from the highest note, thus:

	A D		D A
Plagal fourths	B E	Plagal fifths	E B
	C F		F C
	D C		G D

Hence the eight celebrated ecclesiastical modes, distributed throughout Christendom, as the foundation of church-music, the sounds of which were expressed generally in notes of equal value, varying only as the words accompanying them required a long or short syllable. The fourth and fifth intervals of these modes were made perfect by the application, occasionally, of a flat, or a sharp, or by transposition. The following is a representation of their key notes divided into authentic and plagal, viz.

Authentic
Plagal,

or, classed into equal or unequal, thus:

1	3	5	7	Authentic. Plagal.
2	4	6	8	

that harmony was unknown to us: from our adoption of the word chord, to express a union of sounds of different pitch, as, for example, the chord of the fourth implying the union of the fourth, the fifth, and octave, &c.? St. Ambrose introduced music into the church to attract the Gentiles, and to induce the Christians more willingly to assist in the celebration of divine service. Antiphonies were introduced by St. Ignatius, bishop of Antioch. St. Athanasius interdicted the use of music in the churches of his diocese, admitting that more attention was paid to the music than to the word of God: but it was however found, soon afterwards, to accord with devotional teaching.

It must be understood that the sounds of these modes, as performed according to the principles of modern temperament, are not exactly such as were adopted by the primitive Christians, since, we are told, that, whatever the ancient Greeks may have done, they positively tuned their intervals by perfect fifths, and that without the least temperament, the greatest proof that can be given of their ignorance of harmony: combinations of thirds upon this principle being insufferable to the ear, for which reason they have been treated by some writers as dissonances. It must also be understood that the early Christians, in their application of the principles of Greek music to their sacred writings in prose, instead of poetry, sacrificed its rhythm, and metre: the force and energy of Grecian, also of modern music.*

With these extended means pope St. Gregory composed and added to the chants of the mass, and Hallelujah by Galasius, the Introitus, Kyrie Eleison, the Antienne, Offertory, Litanies, and other pieces. He also framed a code of laws, and, for their strict observance, established, in various parts of Europe, musical schools, where all choral books were corrected, and the pupils, consisting only of orphans, taught accompanied with an instrument. To the singers particular dresses were assigned, together with funds for their support; this happened in the year 590, when, as the manner in which part of the divine service was performed partook absolutely neither of singing nor speaking, it is inferred that it was read after the manner of the ecclesiastical accentuation, or of the reading of the gospel and epistles observed in cathedrals, called psalmodizing, thus:



upon the principles of which St. Ambrose, now- ever, wrote in his work upon Rhythmus in the year 390.

From the time of St. Ambrose to that of St. Gregory, a period of 200 years, nothing is known relative to the cause of music, excepting that popes Sylvester and Hillary instituted public schools for singing and that about this time music was reckoned amongst the number of fine arts; the fathers of the church cultivating it as capable of elevating the soul and devotional feeling. But, for the honor of music, it has been observed that it was the first of the arts, having preceded the rest in order of time; and that it is much more so that it will exist when they can no longer be of any use, and survive when all others shall be forgotten. The musicians assembled in the form of a semicircle round the altar, sang with sweetness and devotion, in chorus, in which popes, and other dignitaries of the church, deemed it an honor to join; the singing master stood in front, or in the middle, holding a stick, a sign of authority given him by the pope, in his

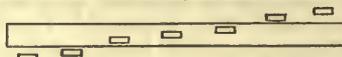
* This species of prosaic music prevailed, in a measure, till the year 1700, Pergolen being the first to introduce into his compositions the principles of rhythm, as observed in the classical works of the ancients.

left hand, and beating time with his right. When one singer only was employed to give out the psalm, his station was in the middle of the church; if two, each at the top of the aisles.

The Gregorian, or chant of the choir, called also the Roman chant, because adopted by the church of Rome, and from thence introduced into the eastern church, was adopted in England by St. Augustin, contemporary with St. Gregory in the year 590, and afterwards in Germany by St. Boniface. It subsisted with more or less success till the year 787, when, through the ignorance and incapacity of its teachers in general, it became so corrupted that its principles were scarcely to be recognised. Pope Vitalianus in 658 introduced the organ into the Roman churches to accompany the singers; Leo II. in 682 reformed the singing of the psalms and hymns, accommodating the intonation of them to the manner in which they are sung or performed at the present day. St. Dunstan, an eminent musician, first furnished the English churches and convents with an organ; which seems to have been an improvement of the hydraulicon or water organ of the Greeks. The first seen in France was sent from Constantinople in 757 by the emperor Constantine as a present to king Pepin.

To correct the abuses arising from the excessively ornamental staccato style, introduced by the singers and described by the holy fathers as imitative of the chatterings of magpies rather than of men assembled for the purpose of praising their Maker, it was ordered in the council of Valentin of 811 that the principles of plain chant should be rigorously observed.

Notkerus was upbraided by his master for singing two notes upon one syllable. In the year 850, under the pontificate of pope St. John XXII., an easier method of reading music by means of a staff of two lines was adopted, the different degrees of the octave being expressed by breves in the following manner, thus:



such was the desire to cultivate the principles of music in England, that, in 885, king Alfred the Great, established a musical professorship at Oxford, and, following the example of other sovereigns, sent to Rome for music masters to teach his subjects the principles of plain chant, which, from the choice of its teachers being made with more discrimination, flourished till the time of Guido Aretinus in the eleventh century, when the principles of music underwent a thorough reformation. It must, however, be remarked that something more than the mere acquirement of a few crotchets and quavers was necessary in these times to make a musical professor.

During the dark ages, no work of genius or taste in any science was produced in Europe; and except in Italy, music was equally neglected. In the middle ages, when the most fertile provinces of Europe were occupied by the Goths, Huns, Vandals, and other barbarous tribes, whose language was as harsh as their manners were savage, no improvement of music is to be looked for.

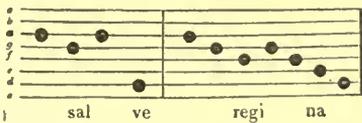
Franco is the first upon record who entertained the idea of counterpoint, an art which has since

experienced gradual and imperceptible improvements, far exceeding the powers of any one individual. The term counterpoint, or contra punctum, denotes its etymology and import. Musical notation was at one time performed by small points; and the present mode is only an improvement of that practice. Counterpoint, therefore, denotes the notation of harmony or music in parts, by points opposite to each other. The improvements of this acquisition kept pace at first with those of the organ; and both were employed chiefly in sacred music, till the thirteenth century, when secular music began to be cultivated.

From the general introduction of organs into the church it is natural to conclude that some ideas of harmony, according to our acceptance of that word, should have been entertained by their admirers and inventors; and it is somewhat remarkable, after what has been said upon the subject of the Orphean lyre, that the first union of sounds adopted as most grateful to the ear, should also have been minor thirds; they were however but sparingly used, and only in the conclusions of chants, thus:



called organising. Several methods producing harmony were also adopted, such as placing a holding note a fourth below, or a fifth above, the vocal part, or both, which was termed doubly organising. This method was afterwards adopted for voices only, hence the expressions seen in ancient compositions, discant double treble, quadruple discant, de medius, &c. These and other unions of different sounds, as the harmony of, or belonging to, the major sixth, &c., ascribed to Franco of Cologne, or Paris, also to Guido Aretinus in the year 1066, gave birth to modern harmony and temperament. Franco introduced notes of different lengths, as the semi-breve long, and maxima, thereby giving a proportionate value to the breve introduced by St. John Damascenus. Guido Aretinus improved the musical staff of two lines already mentioned, as also of another of eight lines which was found in a manuscript in the library of St. Saviour, in Messina, with the names of the lines placed at the head of it, thus:



also as described by Gerbert, thus:

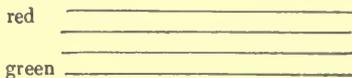
tris sempiternus	/	/
pa /	/	/ fi
/	es	/ li
Tu /	tris sempiternus	/ / / us
pa /	/	/ fi
/	/	/ fi
Tu /	/	/ us

in the formation of one of four lines, and making use of the interstices, thus:

HYMN OF ST. JOHN.

Ut queant laxis Resonare fibris Mira gestorum
Fa muli tuorum sol ve pollutis La bi is re-
a-tum Sancte Io-an-nes.

the letters (sometimes points) representing the music to which Sappho and Horace are said to have set many of their odes. Another method expressing the sounds F and C by a red and a green line, thus:



when it was deemed unnecessary to mark the intermediate lines or spaces. To express the nature of higher or lower sounds than the staff provided for, the red line was placed below the green one. The necessity of that occasional transposition of colored lines caused the introduction of the F, C, and G cleffs, providing the means of expressing the compass of bass, tenor, and treble, voices upon one staff only; these cleffs were originally of the following forms, partaking somewhat of those of the letters, or sound, they represent, thus:



the F cleff was also expressed in the following manner, viz. the shape placing of the staff thereby determining the gravity of the cleff, or key, to unloek or unfold. The last figure representing of an ancient key. The these cleffs upon any line gave it a name, and mined the acuteness and rest. Hence the term

For the purpose of ascertaining with precision the nature of the half-tones in the octave, forming the major diatonic scale, a difficulty felt at the present day in singing music at sight, Guido Aretinus changed the eight letters into six syllables, viz. ut-re-mi-fa-sol-la, and turned the ancient Greek tetrachords into hexachords, i. e. into systems of six sounds instead of four; thus, by an ingenious method, copied from the Greeks, marking by their divisions into cantus naturalis, cantus B durum, and cantus B molle, the characteristic half-tones of the major diatonic scale, by the syllables mi and fa only, thus:



called the cantus naturalis, because the syllables correspond to the letters they represent; the cantus B durum is thus expressed, viz.



and the cantus B molle, thus :



These syllables as they ascend mark the first



calling the first or lowest note by the Greek letter gamma, thus : Γ, implying G also ut : hence the expression gamut, or gamma-ut, formed of seven hexachords, as shown in the following scheme, viz.

20	E				la
19	D			la	sol
18	C			sol	fa
17	H				
17	B			fa	mi
16	A		la	mi	re
15	G		sol	re	ut
14	F		fa	ut	7
13	E		la	mi	6
12	D		sol	fa	ut
11	C		mi		5
10	H		fa		
10	B		la	mi	re
9	A		sol	re	ut
8	C		fa	ut	4
7	F		la	mi	3
6	E		sol	re	
5	D		fa	ut	
4	C		mi		2
3	BH		re		
2	A		ut		
1	G				

word of each line composing the hymn of St. John, which was sung by the disciples of Guido Aretinus, as an exercise to establish in the mind the various degrees of the hexachord, thus :

Ut-queant laxis
Re-sonare fibris
Mi-ra gestorum
Famuli tuorum
Sol-ve pollutis
La-biis natum. SANCTE JOHANNES.

But, as will easily be perceived, Guido Aretinus, for the accommodation of this system called mutation of syllables, deemed it necessary to add a note below the proslambanomenos, and five others above the double octave of the Greeks; thus :

which, says Guido Aretinus, in his Letters on his Micrologus, not only taught the principles of singing in one month, but, amongst other wonderful things, to modulate the subject into systems neither heard nor seen,* and by which the student in one, or at most two years, will become a greater adept in the science of music than by any other method in ten. The utility of this work, however, did not fail to create many invidious rivals, whose malevolent representations alienated the friendship of his patron, the abbot of Pomposa, and he was banished as an exile from that monastery. This method of solmisation, the ground-work of all classical compositions, was adopted with great success by one whose name will ever be dear to Englishmen, and whose works, from the number as well as merit of them, will at all times be reckoned amongst the brightest ornaments of the British school. We allude to the late Samuel Webbe. This scheme, it will be observed, not only teaches the precise value of intervals, but the first principles also of modulation, showing, by its various hexachords, the origin of our terms the tonic, dominant, and sub-dominant, a plan essential to all who would sing with discrimination. The Italians still adopt these principles of solmisation, and, in the designation of the keys into which their compositions are effected, they invariably use the expressions A la mi, C sol fa ut, &c., which, in no way satisfactorily can be explained, than by reference to the foregoing table. These principles were also explained by the different joints of the left hand, which were marked with figures.

The figures and points representing the sounds explained in the preceding scheme.

At this epoch of musical history may be dated the decline of the Grecian modes in general.

The harpsichord is supposed to have been invented before the time of Guido Aretinus, since without some such instrument neither he nor Franco could have put into practice their notions upon the principles of harmony. Soon after this period the compass of instruments in general use was extended from C below gamma to C above E la of Guido Aretinus's scale, forming a compass

* The intelligent musician will not fail to understand the drift of this remarkable sentence.

of four complete octaves; and this arrangement of sound constituted, for many ages, the whole extent of instruments in general use, such as the clarichord, clavichtherum, virginal, and monochord, all of which came under the denomination of spinets; a word derived from spina, a thorn, or little quill, or piece of metal with which the strings of these instruments were made to sound. Ornamental methods of playing are said by Rees to have originated from the shortness of the sounds produced from these instruments, being introduced to occupy, by reiteration of the same notes, the space of time required by long ones, that the ear might not lose their connexion. In nunneries the strings of the clarichord were occasionally covered with cloth, that the sounds might not disturb the dormitory. Organs were afterwards contrived to produce the same number of notes, when the tympanum, epigonium, and other instruments, began to decline, as spinets, in their turn, have yielded to the modern pianoforte and organ. The former comprising a diapason of six octaves and a half. But the extremes of acuteness and gravity, which the ear has been found susceptible of appreciating, exceed nine octaves, viz. from C the third octave below the second space C bass-staff, to C the fourth above the third space, C, of the treble staff. The first making thirty-two vibrations in a second, and the last 16384. The pianoforte, or as originally termed the hammer harpsichord, was invented in the year 1711 by B. Christofalti, a harpsichord maker in Venice, but was not generally introduced till the year 1790, when its strings consisted entirely of brass.

Plain chant, expressed upon a staff of four lines, and two clefs, was the only species of music thought worthy of the speculations of the learned, and no mention was made of musical rhythm, with the exception of St. Ambrose, till the time of Franco, though it was constantly observed in the tongues of the vulgar. The metrical feet introduced by Franco were distinguished into five modes, or elements of rhythm, but, from want of examples, they are in no way satisfactorily to be explained.

In the time of the crusades, music, as all other arts, was neglected, little being known than that Walter Odington, a monk of Evesham, in 1240, and Handlo Marchetti, in 1283, had improved its theory, from their frequent employment of the following harmonic combinations, thus :



consisting of the admixture of dissonances and consonances. These interesting specimens of harmony taken from a manuscript dedicated to Charles, king of Sicily, in 1283, and preserved in the Vatican, the earliest perhaps in which the characters of flat and sharp are introduced, chromatic counterpoint, major and minor semitones, and dissonances, enable us to form some idea of the first efforts of genius in the art of harmony, when every thing depended upon instinct, guided solely by the ear; when it was essential that

genius should create at every step, and when the least of its inventions was more meritorious than the greatest efforts of the present day, produced by reminiscences. Marchetti also wrote upon the subject of measured music. Intervals of thirds and sixths, about the end of the thirteenth century, were deemed more harmonious and better suited for church music than fourths or fifths or faubourdons of psalmody, consisting of simple counterpoint in four parts, but which had its charms nevertheless, in these gothic times, and subsisted for several centuries. Pope St. John XXII., in 1316, issued a bull denouncing the use of harmonic combinations of thirds and sixths, together with the abuse of crowding the majesty and simplicity of the Roman chant with too many parts, excepting only upon certain parts of divine service, when the addition of a few melodiously harmonious passages of thirds, and sixths, and octaves, should accompany the subject of plain chant; and that the instruments should perform strictly in unison with the different voices, i. e. alla capella. But these and other improvements, though rejected by the church, were eagerly adopted by the votaries of profane music.

One of the principal causes of the advancement of the art of music was the introduction of Italian lyric poetry. When prince Conrad marched against Charles I., king of Sicily, in 1268, a chorus of women sung in the streets, accompanied with cymbals, tambourines, flutes, violins, and other instruments. All Italy was now filled with fiddlers, singers, mimics, and buffoons, called guillare, and giocollare, also of minstrels and poets of considerable repute, but to whom Dante was so far considered superior, that he was styled the creator of Italian verse, which, like the strains of Tasso, were recited by heart, by the common people. Nevertheless the melodies to which Italian verse was generally sung partook of the principles of plain chant, till the time of Scocchetti, the contemporary and friend of Dante, who was a good poet as well as an excellent musician. This is ascertained from a title of a species of ballad cited by Ciaccembini, in which we read the words by Dante, and the music by Scocchetti, Parole di Dante e suono di Scocchetti. Casella, the meeting of whom is described in the purgatory with so much feeling, was also an excellent musician and friend of Dante. All verses now sung, were defined by poets, fictitious oration set to music. The most ancient melodies of Italy, composed to Italian words, are to be seen in a manuscript collection of sacred songs preserved at Florence, entitled *Laudi Spirituali*; they are a species of canticles in praise of God, and of the virgin, saints and martyrs. One of these is remarkable not only as showing the first dawnings of modern rhythm, keeping, or, in other words, connexion of melodic design of Italy, but as containing a note hitherto never described; for the principles of composition were so strictly confined within the limits prescribed by Guido Aretinus, that, even in profane music, all other intervals of half-tones were considered as licenses.

The natural love of measured melody, which time and experience produce, says the ingenious

Mr. Webbe, throws the voice into song, the gesture into dance, the speech into numbers. Thus music becomes a language, and, as such, it has its orthography, its punctuation, its prosody, its grammar and poetry, cæsural pauses, hemistichs, and periods, a certain number of which constitutes an air, as a paragraph is composed of various sentences. We may read, recite, and declaim in music as in all languages of convention. United with poetry, as in the songs of the troubadours, minstrels, druids, and bards, it assists in a sensible manner all poetical description. These songs were accompanied, as a matter of course, with musical instruments, as the harp, viol, bagpipe, and psalterion, which are but imitations of the human voice produced by frequent trial and experiment. But unfortunately for the history of music, the religion of the bards did not permit the principles of their arts and sciences to be written, and the moment the arts and sciences began to flourish the reign of the bards was destroyed.

As the lyre was the favorite instrument in Grecian poetry, so the harp held the same place in the estimation of the poets who flourished in this period. A poet of the fourteenth century, Machau, wrote a poem on the harp alone; in which he assigns to each of its twenty-five strings an allegorical name; calling one liberality, another wealth, &c. The instrument which frequently accompanied, and indeed disputed the pre-eminence with the harp, was the viol. Till the sixteenth century this instrument was furnished with frets; after that period it was reduced to four strings: and still under the name of violin holds the first place among treble instruments. The viol was played with a bow, and differed entirely from the vielle, the tones of which were produced by the friction of a wheel; the wheel performed the part of a bow.

British harpers were famous long before the conquest. The bounty of William I. to his jocular or bard is recorded in Domesday book. The harp was the favorite instrument for many ages, under the British, Saxon, Danish, and Norman kings. The fiddle, however, is mentioned so early as 1200 in the legendary life of St. Christopher. The ancient privileges of the minstrels at the fairs of Chester are well known. The extirpation of the bards of Wales by Edward I. is likewise a familiar incident. But his persecuting spirit seems to have been limited to that principality; for, at the ceremony of knighting his son, a multitude of minstrels attended. In 1315, under Edward II., such extensive privileges were claimed by the minstrels, and so many dissolute persons assumed that character, that it became necessary to restrain them by express laws. The father of genuine English poetry, who in the fourteenth century enlarged our vocabulary, polished our numbers, and augmented our store of knowledge (Chaucer), entitles one of his poems *The History of St. Cecilia*, the celebrated patroness of music. Neither in Chaucer, however, nor in any legendary account of this saint, does any thing appear to authorise the veneration paid to her by the votaries of music. Spelman says, the degree of doctor was not granted to graduates in England before the reign

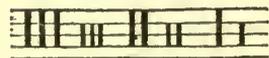
of King John, about 1207; but, in Wood's *History of Oxford*, that degree is said to have been conferred in music, in the reign of Henry II. The title was created on the continent in the twelfth century.

With the exception of the melodies of Scotland, we have no traces of profane music, in past ages, so interesting as those used at the coronation of Petrarch; when he marched to the capitol preceded by twelve maidens of families of distinction, singing verses of his own composition. On this occasion were introduced two choirs of music, vocal and instrumental, playing and singing in sweetest harmony. In the *Decameron* of Boccaccio honorable testimony is borne to instrumental music as terminating the amusements of the day, when, as at present, two styles of music were observed; one composed of plain and popular melodies, easily understood and executed, such as ballads noticed in the ninth day; the other more elaborate and artificial, performed by musicians of experience. As Dante boasted a Casella, so did Petrarch of Bombasia, and Boccaccio of the famous Minuccio D'Arezzo, who sang and played upon the viol. These airs, undoubtedly resembling the songs of the Troubadours, were composed independently of the monotonous principles of plain chant which were felt as revolting to those expectations of genius which excite the invention of melodic phrases. But as the principles of plain chant were too firmly established to sacrifice to the caprice of the day, they were retained exclusively for the church, and music became regularly divided into sacred and profane.

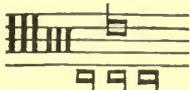
In the year 1353 the principles of rhythm, as established by Franco, were abandoned, and notes of shorter duration, as the crotchet, quaver, and denisemiquaver, were introduced by Jean de Muris, to whom we are indebted for some of the rules regarding movement of parts observed at the present day, but which stood in need of revision.

The notes of the long, breve, maxima, and semibreve, having reference to metrical feet, preceded the use of bars to divide measure into equal portions, each having a relative value, i. e. depending upon the nature of the mode, of time, and of prolation; a species of time as strictly observed and beaten as at the present day. By the mode was determined the relation of the maxima to the long, or of the long to the breve; by time was determined the relation of the breve to the semibreve, and the semibreve to the minim, a sign but of late invention. It is obvious that the terms mode, time, and prolation, signified only certain ways of fixing the relative value of notes by a general sign placed at the head of the musical staff, thus: O or C pointed or not pointed, followed by a figure of a 2, or 3, differently combined, or, divided in the centre, thus:

to which were afterwards added different perpendicular lines, varying in number and length, according as the mode was perfect or imperfect; thus—



when bars covering three spaces, with reference to the Trinity, denoted that the time was perfect, and the maxima of the value of three longs, and the bars covering two spaces only denoted that the long was of the value of three breves. The modes which fixed the relative value of notes were major or minor, as well as perfect and imperfect. The major perfect mode was expressed by bars covering three spaces, when the maxima was considered perfect, and the measure of three times, thus—



The imperfect major mode was thus expressed, when the maxima was equal to two longs, and the measure of two times, thus—



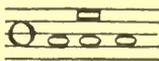
the minor perfect mode was expressed by one bar, occupying three spaces, when the measure was of three times, and the long of the value of three breves, thus—



The imperfect minor mode gave to the long the value of two breves, when the measure was of two times only, thus—



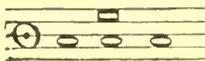
What has been said upon the subject of the mode may be applied to time and prolation, using only notes of shorter duration, in the same proportion when, instead of a bar, a circle, or semicircle, as regards perfect, and imperfect time, and a circle pointed or not pointed, was used to express prolation, perfect or imperfect, thus—



denoting perfect time, i. e. the breve of the value of three semibreves, and the measure of three times. The imperfect time is thus expressed, viz.



when the breve was equal to two times, or semibreves only; major perfect prolation, thus—



and minor perfect prolation, thus—



Major imperfect prolation thus—



i. e. a measure of two times only; and minor imperfect prolation was thus expressed, viz.—



denoting a measure also of two times. The following figures have also been used to express these varieties of mode, time, and prolation, v. z.



As every musician conceived himself entitled to introduce any sign his aprice might dictate, it is natural to conclude that the compositions of these times should be somewhat difficult to decypher; one of the greatest is the precise signification of the points, of which some were placed to the left and others to the right of notes, and designated points of perfection, of division, of alteration, of translation, and of augmentation.

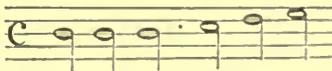
The point placed after a note, the signature of which gave it the value of three times, was called the point of perfection, thus—



The point placed between two notes, marking two different measures, was called the point of division, thus—



the point intended to double the value of certain notes was called that of alteration, thus—



Lastly, when the point was placed after a note of which the sign was not marked, this note was augmented one half, and therefore called the point of augmentation. The ligatures employed by our forefathers were curious, and deserve to be noticed; as showing a short way of writing and the origin of the slur, thus—



the abbreviation of the following passage, viz.



as the following ligatures, thus—



are abbreviations of the notes, viz.



These ligatures had also their rules, varying as their stems ascended or descended. The value of notes was diminished by blackening or coloring the white ones. This enigmatical manner of writing, it would seem, was adopted, as if the beauty of music could be felt only in proportion to the difficulty of comprehending it, but which, nevertheless, continued till the time of Orlando Lasso.

In the fifteenth century the musical system of Josquin, and the Lexicon of Tinctor, served to explain both the principles and terms employed in the science of music. The fundamental principles of the manuscript lately discovered by the latter author are fully explained in George Dowland's translation of Ornithoparchus.

By instruments comprising a clavier of four complete octaves, as already explained, the multiplicity of parts was facilitated; and every tone being divided, as in the time of Pythagoras, into half-tones, serving as flat and sharp required, a much greater facility was afforded to diminish and augment certain intervals, than was attained in the earliest ages of counterpoint. The long levers of the clavier were called pallets, and the short ones, acting as pedals upon the harp, were designated by the generic term *feintes*.

So much having been said upon the subject of plain chant, a question naturally arises as to when and by whom were composed the melodies of Scotland, the characteristics of which are perfection of rhythm and unity of melodic design in all the Grecian modes. Tassoni, in his *Pensieri*, speaking of the abilities of Theophilus the emperor, as a most successful composer, mentions Jacopo (James) king of Scotland, who not only composed in canto, but invented a new style of music, *lamentavole e mesta*, plaintive and affecting, of a nature totally opposite to all other compositions, and that this style was imitated by Carlo Gesualdo, prince of Venoza, an admission, as coming from an Italian, affording the singular anomaly of Scotland giving laws upon the subject of music to Italy.

But Campbell, who seems to have dived more into the subject of Scottish music than any other writer, observes that the favorite idea that James either invented, or in any considerable degree improved the genuine Scottish melodies, is by no means established on any authentic evidence. Pinkerton is of opinion that

none of the songs (words) are older than the fourteenth century, and that the origin of Scottish music must be sought for in that of Scandinavia and Iceland.*

As subsequent to the Christian era, but little has been said upon the principles of rhythm, and as no traces can be found in Italy of any music of a rhythmical nature previous to the production entitled '*Alla Trinita*,' a composition, as compared with the worst of Scottish melodies, totally of an inferior description, it is evident that they never were derived nor received the least improvement from Italy. But as they have been traced long before the reign of James I., and as the principles of rhythm from time immemorial were constantly observed in the songs of the common people, it is by no means impossible, that, if not of Iceland, they are of Grecian origin, and that they were transmitted to us by the Romans, the Druids, minstrels, shepherds and highland pipers, preserved by the monks of Montrose, and, probably, by James I., who was too excellent a poet and musician not to feel and appreciate the value of them. Had they been composed since the invention of printing, it is scarcely possible that the names of their composers should not have been regularly canonised. These inestimable gems were doubtless sung unaccompanied, or at most in unison, when the voice, left freely to vibrate upon the ear, the more readily conveyed them to the heart. Indeed had they not in a most powerful manner affected the passions of mankind they would have been forgotten ages ago.

Before the reformation, as there was but one religion, there was but one kind of sacred music in Europe, plain chant, and the descant built upon it. That music likewise was applied to one language only, the Latin. Hence the compositions of Italy, France, Spain, Germany, Flanders, and England, kept pace with each other in style and excellence. All the arts seem to have been the companions of successful commerce, and during the sixteenth century became general in every part of Europe.

In the sixteenth century music was an indispensable part of polite education. There is a collection preserved in MS. called Queen Elizabeth's *Virginal Book*. Tallis, profound in musical composition, and Bird his admirable scholar, were two of the authors of this famous collection. In queen Elizabeth's reign, the genius and learning of the British musicians were not inferior to any on the continent.

Of the various methods of composing music, a singular custom prevailed to which the singers and composers were obliged to conform, viz. of taking a well known melody for a subject, and, whilst the air was heard in one or other of the parts, remaining voices prolonged or shortened the notes of the subject, strictly, however, pre-

* At a time when the whole of Europe was involved in ignorance, Iceland abounded in learning. Its first discoverer upon record was Naddod, a pirate, in 861, and the Roman Catholic religion was introduced among its inhabitants in 974. They had various musical instruments, one of which, called the long *spiel* was found there by Sir Joseph Banks.

erving the respective degrees of acuteness and gravity of its intervals, producing imitations, canons, and fugues. This custom subsisted till the time of Zarlino, and Glareanus informs us that, in his time, but little was composed but upon the foundation of some well known melody, and that such compositions as were not composed upon this principle were termed *missa sine nomine*. Of the melodies used as a foundation for counterpoint, the most celebrated was the song entitled *L'Homme Armé*, a provincial canzonet composed in the early part of the sixteenth century. Another method, not less remarkable, was also observed, consisting of singing certain parts of the divine service in four parts impromptu upon a given subject, written principally for the tenor called 'chant sur le lure.' But these compositions, however ingenious, afforded more an object of intellectual amusement than of spiritual devotion; the sense of the words was quite out of the question. These abuses were corrected under the pontificate of Marcellus in 1555.

Every means being now employed that science and application could suggest, to bring to perfection the natural powers of harmony, the melody arising from the Ionian and Æolian modes was found to be susceptible not only of greater perfection than that hitherto employed in psalmody, but even of grace, elegance, and of every embellishment that art and genius could furnish. This discovery soon introduced music into good company, and from taverns, and other haunts of the vulgar, it ascended to form the delight of polished society, as also, for the first time, of the speculations of the learned. But unfortunately for the cause of that species of melody which, in the early part of this history, had been proved to be totally independent of harmonic rules, the powers of the other Grecian modes were considered of too feeble a nature to be attended to, and their divisions into plagal and authentic were entirely superseded by the major and minor modes. These modes, adopted solely by those in whom the principles of taste for melody combined with harmony, had developed themselves, are determined by their respective mediants.

Under the pontificate of Marcellus, and, at a time when music, from its degraded state as a science, was upon the eve of being entirely excluded from the celebration of divine service, Palestrina at the age of twenty-six presented to his holiness a mass upon an entire new principle, the success of which procured for him the situation of composer to the church of Rome. His observations upon the principles of harmony produced a complete revolution in the science, not only in Italy but in every part of Europe. He was a pupil of Goudimil of Besançon, a celebrated composer of the French school, which, says Choron, having emanated from the Flemish, and the first that flourished after the arts had fallen, ought to be considered the mother of modern schools.

Palestrina, also, in compliance with custom, produced a mass upon the subject of *L'Homme Armé*. It was so complicated that Zaccconi wrote a commentary upon it, occupying thirteen

folio pages of close printing, to explain the notes and to resolve the canons; but even with this assistance few musicians are competent to adjust the parts in score. In 1570 Palestrina renounced this pedantic style of writing; and such was the excellence of his compositions that Cifra, Tharenzio, composers of the first order, and De Porta, considered them as models of perfection. Soriano was an imitator of Palestrina, and a composer of 110 canons upon the subject of *Ave Maria Stella*. Valentina, however, surpassed Soriano in the composition of a canon called *Solomon's Knot*, consisting of ninety-six parts: a description of this canon may be seen in Dannely's *Portable Encyclopædia of music*, a work, which, inasmuch as it combines the whole of the theoretical observations of Catel Choron, and Reicha, together with the principal articles in Roch's German Lexicon, is highly useful to the musical student.

Monteverde, also an imitator of Palestrina, deserves honorable testimony; for, having acquired the excellence of the system of counterpoint adopted by that eminent composer, he ventured to introduce double dissonances as the diminished fifth and minor seventh, for which, although they please the ear and are productive of the finest effects, he had the mortification of being designated an impostor and corrupter of the art.

The most eminent musical theorists of Italy, who flourished in the sixteenth century, besides these already named, were Franchinus Gasierius of Lode, Peter Aaron of Florence, Lewis Fogliano, John Spatatro, John Maria da Terentio, Lanfranco, Stephen Uanneo, Anth. Doni, the most general, voluminous, and celebrated theorists of that period; Vincent Galilei, a Florentine nobleman, and father of the great Galileo Galilei; Maria Artusi of Bologna, Oraseo Tegrini, Peter Pontio, Lewis Zaccconi, and Andrew Rota, an admirable contrapunctist. The principal Roman authors were, John Annuccia, Rugiero Giovanelli, Lucas Marenzio, who brought to perfection madrigals, the most cheerful species of secular music. Of the Venetians, Adrian Willaeri is allowed to be at the head. At the head of the Neapolitans is deservedly placed Rocco Rodio. At Naples, too, the illustrious dilettante, Charles Gesualdo prince of Venosa, is highly celebrated. Lombardy could also furnish an ample list of eminent musicians during the sixteenth century. The chief of them were Constance Porta, Gastoldi, Biffi, Cima, and Vocchi. Francis Cortecchia, a celebrated organist and composer, and Alexander Striggio, a lutanist and voluminous composer, were the most eminent Florentines.

Up to the year 1700 the principles of musical rhythm were but imperfectly understood; much less so, perhaps, than by the ancient Greeks and Romans. For by the continual application of long notes to short syllables, and long syllables to short notes, by Hasse, Handel, &c., as for example—

Angels über bright and fair
Wäh'n hēr angels through thē skēs.

the caesural pauses of the poetry were often cen-

founded with those of the music. Peigolese, in the improvement of these defects, deserves to be noticed in history. But though it must be confessed that the melody of the moderns, by neglecting the ancient rules of the *Melopœia*, has acquired a richness and variety, as compared with the few specimens of ancient music handed down to us, it cannot be dissembled that this variety is often maintained in defiance of the general rules of prosody, when the voice is not only made to apply a short note to a long syllable, but even to dwell and run into divisions upon the insignificant particles of language, whilst the most emphatical words are nearly imperceptibly glided over to the entire subversion of the poet's meaning. Music then, instead of aiding poetry, becomes the instrument of rendering it ridiculous, and making sense nonsense.

As early as 1440 an opera, in imitation of Greek tragedy, called the conversion of St. Paul, was publicly performed in Rome. Five years afterwards *La Verità Raminga*; and in 1574 operas were upon the scale of modern times. The performance of *Daphne* and *Eurydice*, by Peri and Arienne, astonished the whole of Europe. The first operas were performed in a cart, with a moveable stage, like the one used by Thespis at Athens, and they attracted the multitude from street to street.

Having, as far as our limits permit, described the nature of musical instruments, and their employment in the formation of the ancient and modern systems of sounds, the leading features of musical history, we pass over events of minor importance, and cursorily notice the introduction in the seventeenth century of the bar to divide musical sentences into equal portions; the addition of the fifth line to the musical staff; and Ludovico Viadona's harmonised scale of the octave, the merits of which will be shown in our principles of harmony and composition. Among the various treatises that have been published on this enchanting science, by the most eminent authors, in the course of the eighteenth century, none has obtained higher or more just applause for method, perspicuity, conciseness, and elegance, than that of M. D'Alembert's translation of Rameau's principles of harmony.

The first theories of music were perhaps as ancient as the age of Pythagoras; nor does history leave us any room to doubt, that, from the period when that philosopher taught, the ancients cultivated music, both as an art and as a science, with great assiduity. But there remains to us much uncertainty concerning the degree of perfection to which they brought it. We shall, therefore, content ourselves with considering the present state of music, and limit our endeavours to the explication of those accessions which have accrued to the theory of music in these later times.

The first compositions upon the laws of harmony which we know are of no higher antiquity than two ages prior to our own; and they were followed by many others. But as none of these essays were capable of satisfying the mind concerning its principles; as they were confined almost entirely to the collecting of rules, without endeavouring to account for them; and nei-

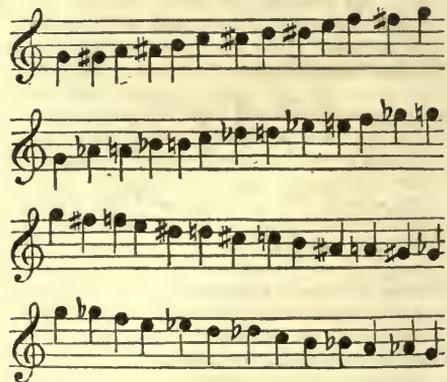
ther their analogies one with another, nor their common source, had been perceived: an unenlightened experience was the only compass by which the artist could direct his course. M. Rameau was the first who began to transfuse light and order through this chaos. In the different tones produced by the same sonorous body, he found the most probable origin of harmony, and the cause of that pleasure which we receive from it. His principle he unfolded, and showed how the different phenomena of music were produced by it: he reduced all the consonances to a small number of simple and fundamental ones, of which the others are only combinations or arrangements. He, in short, discovered, and rendered sensible to others, the mutual dependence between melody and harmony. Tartini presented us in 1754 with a treatise of harmony, founded on a principle different from that of M. Rameau. This principle is the result of a most beautiful experiment. If at once two different sounds are produced from two instruments of the same kind, these two sounds generate a third, different from both the others.

But from the great encouragement given by the various conservatories upon the continent, since the publication of these treatises, however excellent and ingenious, they have been superseded by others more efficient for the explanation of musical theory in general; and the theoretical works of Cloron, Catel, Momigny, and Beicha, possessing every observation that science and experience could suggest upon the subject of music, little or nothing is left to later theorists but to study and translate them.

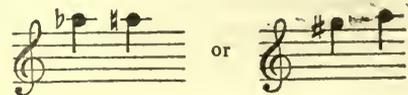
PART II.

THEORY OF MUSIC.

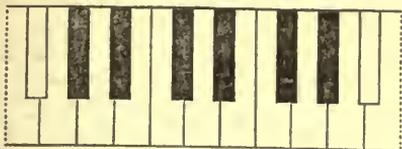
From the twelve degrees of the octave, tuned according to that mode of temperament which gives to each note its natural sound, thus:—



together with others thus—



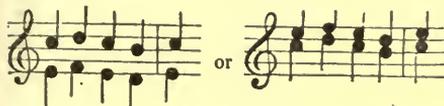
and as represented upon the following portion only of the modern pianoforte clavier, thus—



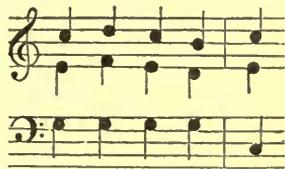
we obtain the twelve major and minor scales, the thirteen harmonic combinations of sounds, every major and minor semitone, and augmented, diminished, perfect, and enharmonic interval; which, as colors to the painter, are the materials for musical compositions: all other sounds, high or low, being considered, and treated, as replicates of the above notes, and as varieties of the diatonic scales, major or minor, whether as regards melody or harmony; the former consisting of a succession of notes capable of being sung by a single voice, or played upon the pianoforte, thus—



the latter of a combination of notes, sung by two voices, thus—



by three voices, in the following manner, thus—



or by four voices, thus—



In the foregoing specimens of harmony, in two parts, the lowest of the first forms the highest of the second specimen; this transposition of sounds is employed to produce variety, and is called inversion of intervals, a process by which major intervals become minor ones; minor intervals become major; augmented intervals become diminished, and diminished intervals become augmented. All intervals are known by the number of degrees composing them; and every interval is susceptible of inversion.

Intervals of seconds, of which there are three species, produce by inversion, sevenths, thus:

1. The minor second, as C natural, and D flat, next above, composed of one chromatic degree, produces, by inversion, the major seventh, as C natural, and D flat, next below, which is composed of eleven chromatic degrees (see table of intervals, p. 290).

The number of degrees of any interval diatonic or chromatic, wanted to complete the octave, is called the complement of the octave, which must either make up the number 9, or that of 12: the former by diatonic degrees, when the first note, or root, is called unison, and is reckoned as one; and the latter by chromatic degrees, when intervals are reckoned according to the absolute degrees of which they are composed.

2. The major second, as C, D, next above, composed of two chromatic degrees (see table, p. 290), produces, by inversion, the minor seventh, as C, D, next below, which is composed of ten chromatic degrees, thus—



The intervals, therefore, comprising the major second and minor seventh, reckoned together, make up the number nine diatonically, and that of twelve chromatically.

3. The augmented second, as C natural, D sharp, next above, composed of three chromatic degrees, produces, by inversion, the diminished seventh, as C natural and D sharp, next below, which is the complement of the octave, and composed of nine chromatic degrees.

Intervals of thirds, of which there are four species, produce by inversion sixths of the same number and species, thus—

1. The diminished third, as C sharp, and E flat, the use of which is strictly forbidden excepting upon enharmonic occasions, is composed of two chromatic degrees, and produces, by inversion, the augmented sixth, which is composed of ten chromatic degrees, and used instead of the diminished third;

2. The minor third, as C natural, and E flat, composed of three chromatic degrees, produces by inversion the major sixth, as C and E flat next below, which is composed of nine chromatic degrees;

3. The major third, as C natural, and E natural, next above, composed of four chromatic degrees, produces by inversion the minor sixth, which is composed of eight chromatic degrees, as C natural, and E natural, next below;

4. The augmented third, as C natural, and E sharp, composed of five chromatic degrees, produces by inversion the diminished sixth, as C natural, and E sharp, next below, which is composed of seven chromatic degrees.

Intervals of fourths, of which there are three species, produce by inversion fifths of the same number and species, thus:—

1. The diminished fourth, as C natural, F flat, composed of four chromatic degrees, produces, by inversion, the augmented fifth, as C sharp, F

flat, next below, which is composed of eight chromatic degrees ;

2. The perfect fourth, as C natural, F natural, composed of five chromatic degrees, produces, by inversion, the perfect fifth, as C, and F, next below, which is composed of seven chromatic degrees ;

3. The augmented fourth, as C natural, F sharp, next above, composed of six chromatic degrees, produces, by inversion, the diminished fifth, which is also composed of six chromatic degrees.

Intervals of fifths, of which there are three species, produce, by inversion, fourths of the same number and species; thus—

1. The diminished fifth, as C natural, G flat, next above, composed of six chromatic degrees, produces, by inversion, the augmented fourth, as C natural, and G flat, next below, which, as before stated, is composed of six chromatic degrees ;

2. The perfect fifth, as C natural, G natural, next above, composed of seven chromatic degrees, produces, by inversion, the perfect fourth, as C natural, G natural, next below, which is composed of five chromatic degrees ;

3. The augmented fifth, as C natural, G sharp, next above, composed of eight chromatic degrees, produces, by inversion, the diminished fourth, as C natural, and G sharp, next below, which is composed of four chromatic degrees.

Intervals of sixths, of which there are four species, produce, by inversion, thirds of the same number and species, thus—

1. The diminished sixth, as C sharp, A flat next above, composed of seven chromatic degrees, produces, by inversion, the augmented third, as C sharp, A flat, next below, which is composed of five chromatic degrees :

2. The minor sixth, as C natural, A flat, next above, composed of eight chromatic degrees, produces, by inversion, the major third, as C natural, A flat next below, which is composed of four chromatic degrees :

3. The major sixth, as C natural, A natural, next above, composed of nine chromatic degrees, produces, by inversion, the minor third, as C natural, A natural, next below, which is composed of three chromatic degrees.

4. The augmented sixth, as C natural, A sharp, composed of ten chromatic degrees, produces, by inversion, the forbidden interval of the diminished third, as C natural, A sharp, next below, which is composed of two chromatic degrees.

Intervals of sevenths, of which there are three species, produce, by inversion, seconds, thus—

1. The diminished seventh, as C sharp, B flat, next above, composed of nine chromatic degrees, produces, by inversion, the augmented second, as C sharp, and B flat, next below, which is composed of three chromatic degrees ;

2. The minor seventh, as C natural, B flat, next above, produces, by inversion, the major second, as C natural, B flat next below, which is composed of two chromatic degrees.

3. The major seventh, as C natural, B natural, composed of eleven chromatic degrees, produces, by inversion, the minor second, which is composed of one chromatic degree.

Unisons, as C C, become, by inversion, octaves, as C, C, next above.

The following is a general table of the intervals explained in the foregoing pages.

Seconds produce, by inversion, sevenths.	minor 2. major 2. augmen. 2.	
Thirds produce, by inversion, sixths.	dimin. 3. minor 3. major 3. augm. 3.	
Fourths produce, by inversion, fifths.	dimin. 4. perfect 4. augmen. 4.	
Fifths produce, by inversion, fourths.	dimin. 5. perfect 5. augmen. 5.	
Sixths produce, by inversion, thirds.	dimin. 6. minor 6. major 6. aug. 6.	
Sevenths produce, by inversion, seconds.	dimin. 7. major 7. major 7.	

Intervals of which the notes serve to show the number of degrees composing them are consonant and dissonant.

Minor and major thirds and sixths, in the composition of melody or harmony, being of themselves either way satisfactory to the ear, which is the umpire of all musical sounds, are distinguished by the appellation of imperfect consonances; fourths, fifths, and octaves, are denominated perfect consonances, because, by the alteration of either of them by a sharp or flat, they are immediately rendered unsatisfactory to the ear. These and all other chromatic intervals are dissonant, as is the case with seconds and sevenths; and the fourth of the diatonic scale when forming an integral part of the dominant harmony of the seventh; and the sixth, when forming that of the dominant ninth, are also regarded as dissonances requiring to be regularly resolved into the perfect harmony of the Tonic, thus—



The diatonic major scale, also the Ionian scale of the ancient Greeks,



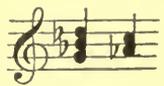
the intervals of which are inverted, both by notes and figures, in the following manner, viz.



1 2 3 4 5 6 7 8
8 7 6 5 4 3 2 1

consisting of five tones and two half tones, the latter falling between the third and fourth, and seventh and eighth intervals. We postpone other considerations of this diatonic scale till we have developed the whole of the harmonic powers of the dominant ninth.

The application of the sign of a flat to the third of the dominant root, thus— forms the model of the perfect minor harmony; and the same union of different sounds, varied by the addition of another flat, constitutes the softest of all discords, which is the harmony of the minor third and diminished fifth; the acute, as well as the middle, sound forming a dissonance, both of which must be regularly resolved, and in the following manner, viz.



Varying this third dominant combination of sounds, i. e. by placing the sign of a sharp to the highest sound, and omitting the two flats, we have the harmony of the major third and augmented fifth, when the fifth forms the principal dissonance, requiring, together with the third, resolution into perfect harmony, thus.

From the harmony of the dominant ninth we have therefore derived four species of combinations of thirds and fifths. From the same source we also derive four species of the harmony of, or belonging to, the seventh viz.



Upon these simple combinations of different sounds, the first of which must be considered the cause, and the last the effect of that cause, the whole science of harmony depends: the powers of the first providing, by the application of a flat, or a sharp, taken in totality, or in part, for every species of harmonic combination used in the present day; as the materials of the latter provide, by the occasional application of a flat to its third note, every sound proper for the resolution of the dissonances arising, directly, or indirectly, from the harmony of the dominant ninth. Thus the lowest note of the foregoing example of the harmony of the dominant ninth, called the dominant root, accompanied only by the major third, and fifth, thus—G B D, affords the modes of the tonic major, perfect harmony C E G; but although the materials of which these intervals are composed be absolutely the same, their effects as employed in succession are of a widely different nature, the first governing entirely the key note of the second which is C, the key note of the passage, thus—



It follows therefore of consequence that every note composing the dominant harmony of the ninth must be considered and treated as a dissonance, excepting the root G: the A cadencing or falling upon G, the F upon E, the D upon C, the B cadencing or rising to C, i. e. from necessity, or according to the principles as established by nature: the G, which is common to both harmonies, forms the link by which they are united. From this simple process, of which the tonic, or key note, C, may be said to be the centre of gravity, upon which all other sounds resolve, we obtain the model and origin of the twelve major diatonic scales; all other major scales being only transpositions of this natural, or primary order of sounds, viz.

The dominant seventh, composed of the union of the major third, perfect fifth, and minor seventh, all of which, being dissonances, resolve thus—



the application of a flat to the third of the preceding harmony produces the seventh of the second species, composed of the minor third, perfect fifth, and minor seventh, thus—



each of which requires, sooner or later, resolution into perfect harmony; the same observations extend to the third species of seventh, which is effected by the application of another flat to the fifth, thus—



which is composed of the minor third, imperfect fifth, and minor seventh.

The fourth and last species of seventh is produced by raising the seventh interval one half tone, and omitting the flats to the third, and fifth, thus—



called the harmony of the major seventh, composed of the major third, perfect fifth, and major seventh, which is the harshest of all discords.

Proceeding still by the system of thirds, we obtain the dominant major ninth composed of the major third, perfect fifth, minor seventh, and major ninth, all of which are dissonant, as before explained (see page 291.) By the application of a flat to the ninth interval of this harmonic combination, we have the harmony of the dominant minor ninth, composed of the major third, present fifth, minor seventh, and minor ninth, the whole of which sounds are also dissonant, and resolve in the following manner, viz.—



From the harmony of the dominant minor ninth are derived two other combinations of sounds; the first is composed of the harmony of the major third, augmented fourth, and augmented sixth, which is effected by lowering the perfect fifth one-half tone, and omitting the note constituting the minor ninth, when the two gravest notes, as dissonances, descend one degree each,

and the highest note ascends as usual, thus—

G is the root of the discord still, though D flat is termed the bass, because sung by the deepest voice, or played by a bass instrument; the



second combination consists of the harmony of the major third, perfect fifth, and augmented sixth, when all intervals are dissonant, resolving sooner or later into perfect harmony, thus—

i. e. one after another, for reasons hereafter to be explained. It will be seen that this combination of dissonant sounds



is the same as the dominant minor ninth, with the exception of having the perfect fifth one degree, and omitting the root. The last harmonic combination of sounds, making the thirteenth, is expressed in the following manner, consisting of the union of the major third, minor seventh, and augmented fifth, and resolving thus—

It must be observed that the resolutions of the various dissonant harmonies, arising from the dominant ninth, may be immediately effected



in minor as well as major perfect harmonies, with the exception of Nos. 4, 8, and 13. The dissonances, therefore, of No. 11, may also resolve in the following manner, viz.—



when the key-note of the passage is denominated C minor.

The fundamental principles of every possible variety of harmonic combination, constituting natural harmony, and as affects the major scale, being fully developed, the following table will suffice for the description of those appertaining to the scale of the relative minor, viz.—

1	2	3	4
5	6	7	8
10	11	12	13

Remarks upon the respective powers of the foregoing dissonant and consonant harmonies, and of the situations they occupy in the diatonic major and minor scales.

It has undoubtedly been remarked that the notes composing the several tonic harmonies, introduced for the proper resolution of the dis-

EXAMPLES

46 47 48

Musical notation for examples 46, 47, and 48. Example 46 shows a treble clef with notes G4, A4, B4, C5, and a bass clef with notes G3, F3, E3, D3. Example 47 shows a treble clef with notes G4, A4, B4, C5, and a bass clef with notes G3, F3, E3, D3. Example 48 shows a treble clef with notes G4, A4, B4, C5, and a bass clef with notes G3, F3, E3, D3.

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Musical notation for example 49. The treble clef part shows notes G4, A4, B4, C5, and the bass clef part shows notes G3, F3, E3, D3.

50 51 52

Musical notation for examples 50, 51, and 52. Example 50 shows a treble clef with notes G4, A4, B4, C5 and a bass clef with notes G3, F3, E3, D3. Example 51 shows a treble clef with notes G4, A4, B4, C5 and a bass clef with notes G3, F3, E3, D3. Example 52 shows a treble clef with notes G4, A4, B4, C5 and a bass clef with notes G3, F3, E3, D3.

Two staves of musical notation. The top staff is in treble clef and the bottom staff is in bass clef. Both staves show a sequence of notes with accidentals (sharps) and bar lines. Measure 55 is marked with a double bar line and a sharp sign. Measure 56 is marked with a double bar line and a sharp sign.

Three staves of musical notation. The top staff is in treble clef and the bottom staff is in bass clef. Measure 57 is marked with a double bar line and a sharp sign. Measure 58 is marked with a double bar line and a sharp sign. Measure 59 is marked with a double bar line and a sharp sign. The word "rectified" is written vertically between the staves.

One staff of musical notation in treble clef. Measure 60 is marked with a double bar line and a sharp sign. The text "Saw ye Johnnie. Phrygian." is written below the staff.

One staff of musical notation in treble clef. Measure 61 is marked with a double bar line and a sharp sign. The text "Och pratty Kate. Mixt Lydian." is written below the staff.

Two staves of musical notation. The top staff is in treble clef and the bottom staff is in bass clef. Measure 62 is marked with a double bar line and a sharp sign. The text "A Highland Lad. Phrygian." is written below the staves.



MUSIC

EXAMPLES

25

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EXAMPLES

Example 1: A grand staff with treble and bass clefs. It shows a sequence of chords and notes. Markers 1 through 5 indicate specific points in the sequence. A 'etc.' label is placed above the sequence.

Example 2: A grand staff with treble and bass clefs. It shows a sequence of chords and notes. Marker 7 indicates a specific point in the sequence.

Example 3: A grand staff with treble and bass clefs. It shows a sequence of chords and notes. Markers 8, 9, and 10 indicate specific points in the sequence. A sharp symbol (#) is visible above the sequence.

Example 4: Partial view of a grand staff with treble and bass clefs, showing a sequence of chords and notes.

etc

13

14

15

16

17

18

19

Direct

Oblique

Parallel

Contrary

20

21

22

23

6

6

6

6

5, 2



sonances, occupy different situations upon the staff, and that without changing their names, they produce variety of effect, thus—



The perfect minor harmony is placed upon the tonic and fourth of the minor mode; and upon the second, third, and sixth of the major mode, thus—



i. e. according to the positions of the dissonances preceding them. These different situations of perfect harmonies are called inversions, which is also the case with the dissonant or imperfect ones, when the notes of the sixth, the octave, and seventh, alternately form the acute or melodic part, and the lowest, consisting of harmonic roots, form the bass. Harmonic combinations of intervals, therefore, are susceptible of inversion as well as intervals, thus :

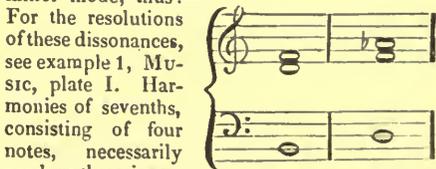
The major perfect harmony, composed of the same materials as explained No. 1, i. e. of the major third and perfect fifth, is capable of two inversions, viz. the harmony of the minor third and minor sixth; and the harmony of the perfect fourth and major sixth, thus—



The harmony of the diminished fifth, composed of the same materials as No. 3, is capable also of two inversions; producing the harmony of the minor third and major sixth, and the harmony of augmented fourth and major sixth, thus—



The imperfect harmony of the diminished fifth requires no preparation, and is placed upon the seventh of the major, and the second of the minor mode, thus—



The figure 5 is an abbreviation of the 3d, 5th, and 8th; the 6th an abbreviation of the 3d, 6th, and 8th; and the $\overset{6}{4}$ that of the 4th, 6th, and 8th.

The perfect major harmony is placed upon the tonic, the subdominant or fourth, and the dominant or 5th, of the major mode; also upon the 5th and 6th of the minor mode, thus—



The minor perfect harmony, composed of the minor third, and perfect fifth, is also capable of two inversions, viz. the harmony of the major third and major sixth, and the harmony of the perfect fourth, and minor sixth, thus :—



For the resolutions of these dissonances, see example 1, Music, plate I. Harmonies of sevenths, consisting of four notes, necessarily produce three inversions; thus the harmony of the dominant seventh, composed of the major third, perfect fifth, and minor seventh, produces the harmony of the minor third, diminished fifth, and minor sixth; the harmony of the minor third, perfect fourth, and major sixth; and the harmony of the major second, augmented fourth, or triton, and the major sixth; thus showing at the same time the situations they occupy in the scale, viz.



the resolutions of these different harmonies are explained in examples 4, 5, 6, and 7, plate I.

The harmony of the seventh of the second species (No. 6), with the exception of the minor third, is the same as the foregoing combination of different sounds, and is susceptible of the same

number of inversions; it is placed upon the second degree of the major mode; the seventh interval must be prepared, and the whole of the component parts must regularly resolve upon the perfect harmony of the fifth below, or upon the dominant seventh of that fifth, thus—



The harmony of the seventh of the third species (No. 7) is called that of the seventh of the sensible of the major mode, and composed of the minor third, diminished fifth, and minor seventh; it is placed upon the seventh of the major, and second of the minor mode, and produces three inversions, viz. the harmony of the minor third, perfect fifth, and major sixth; the harmony of the major third, augmented fourth, and major sixth; and the harmony of the major second, perfect fourth, and minor sixth, thus—



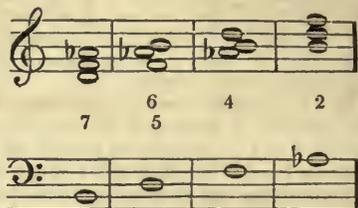
For the resolution of these harmonic combinations, see example 8, plate I. When the bass of the third specimen rises one degree for the preparation of a perfect cadence.

The harmony of the fourth species (No 7), composed of the harmony of the major third, perfect fifth, and major seventh, produces also three inversions, viz. the harmony of the minor third, perfect fifth, and minor sixth; the harmony of the major sixth, major third, and perfect fourth; and the harmony of the perfect fourth, minor sixth, and major second, thus—



This harmony, of which the whole of its inversions are practicable, is employed upon the sixth of the major, also upon the fourth of the minor scale: the seventh must be prepared: see example 9, plate I.; but, that its extreme asperity may be qualified, an immediate succession of the other three species of sevenths is required, as in example 10, plate I.

The harmony of the diminished seventh is composed entirely of minor thirds, and is also denominated the seventh of the sensible of the minor mode. It is composed of the minor third, imperfect fifth, and diminished seventh, and produces three inversions, viz. the harmony of the minor third, diminished fifth, and major sixth; the harmony of the minor third, augmented fourth, and major sixth, called the harmony of the triton; and the harmony of the augmented second, augmented fourth, and major sixth. The whole of these intervals resolve upon the harmony of the tonic, and they are treated in every respect the same with those of the dominant seventh, thus—

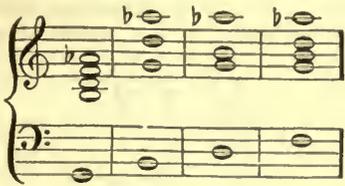


The harmony of the dominant major ninth (No. 9) comprises the whole of the notes constituting the dominant seventh, and is composed of the major third, perfect fifth, minor seventh, and major ninth. Being composed of five notes it is capable of four inversions, viz. the harmony of the minor third, diminished fifth, minor sixth, and minor seventh; the harmony of the minor third, perfect fourth, perfect fifth, and major sixth; the harmony of the major second, minor third, augmented fourth, and major sixth; and the harmony of the major second, perfect fourth, minor sixth, and minor seventh, thus—



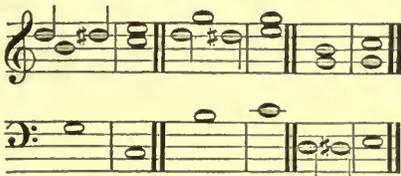
This fundamental harmony, of which the fifth is omitted for the sake of a more grateful resolution, resolves, together with its three inversions, upon the harmony of the tonic; and, in the employment of this combination of sounds, the root of which is generally dispensed with, care must be taken to place its component parts at a considerable distance from each other; the last inversion only must be prepared, see example 12, plate I.

The harmony of the dominant minor ninth, composed of the major third, perfect fifth, minor seventh, and minor ninth, is also generally employed without its root, when it consists simply of the materials of the diminished seventh; the harmony of the dominant ninth has three inversions, thus—

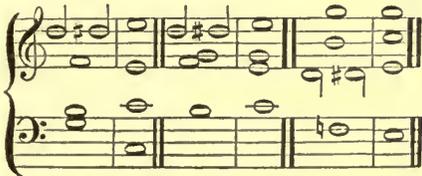


See example 13, plate 1.

The harmony of the major third, and augmented fifth, is placed upon the dominant of each of the modes; it has two inversions, viz.



The harmony of the augmented fifth, with the minor seventh, produces only one inversion, thus:



the second, on account of the forbidden interval of the diminished third, being nowise practicable.

The harmony of the augmented sixth, major third, and perfect fifth, the eleventh of the classification, is employed in the formation of perfect cadences, but always upon the sixth degree of the scale. See example 15.

The harmony of the augmented fourth, and augmented sixth, and major third (No. 12), requires preparation as in example 16.

It has undoubtedly been observed that, as intervals are of themselves consonant and dissonant, harmony, which consists of the union of these intervals, must also be consonant or dissonant; that all dissonances which are essential, as producing variety, activity, and strength of character, must resolve, sooner or later, into consonances, minor or major, that the ear may be relieved from the harsh effects of dissonances; also that the different sounds and combinations of sounds we have been endeavouring to describe in the foregoing pages are capable of being reduced to nine notes. These may be again reduced to seven primary ones. As, therefore, in painting, we may blend the original colors as much as we please towards the production of another color; all the possible variety of tints being only different combinations of the seven primary colors as they are separated by a prism; so all the variety of 'melting sounds' which enchant us, must consist in a different succession,

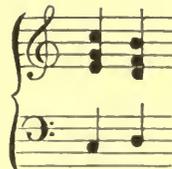
or in a different union, of some of these seven natural notes, or their replications or varieties; such are the boundaries of these applications of sight and hearing.

APPLICATION OF THE FOREGOING OBSERVATIONS, AS APPLIED TO THE DIATONIC MAJOR SCALE.

As the major diatonic scale is composed of tones and half tones, it follows that the same figures, if placed upon its different degrees, would produce different species of harmonic combinations; thus by the application of the figures 3, 5, 8, upon those degrees, we obtain three major perfect harmonies, three minor perfect harmonies, and one imperfect harmony, corresponding to Nos. 1, 2, and 3; the first accompanying the tonic, dominant, and subdominant; the second accompanying the second, third, and sixth of the mode; and the last accompanying the major seventh of the scale (see example 17): the figures 3, 5, 7, produce one dominant seventh; three harmonies of sevenths of the second species; one of the third species of seventh; and two of the fourth species of seventh, corresponding to Nos. 4, 5, 6, and 7 (see example 18). The creation of this mode is explained page 289. The accompaniment given to it by Viedana will serve to show the different movements of parts required in the construction of counterpoint, as also the laws whereby two or more perfect harmonies are made to succeed each other with propriety and effect.

In counterpoint or harmony, no two fifths, nor two octaves, are allowed to succeed each other; the former because exceedingly offensive to cultivated ears, and the latter not only offensive but productive of no result. These are avoided by the occasional doubling of some intervals, and of rejecting others; also in the observance of the rules appertaining to the four different species of movements of parts: viz. direct movement, when each part ascends or descends together; oblique movement, when one part ascends or descends during the time another remains stationary; contrary movement, which is the best, each part moving contrarywise; and parallel movement, each part remaining upon the same degree. See example 19.

From these premises, in the accompaniment of the scale in four parts, as figured by Ludovico Viadana, the contrary movement must be taken in passing from the first to the second degree of the scale, thus—



i. e. to avoid two following fifths, and octaves in the outer parts producing greater strength of character than the following treatment possesses, viz.—



which is strictly forbidden on account of the octaves.

The passage from the second to the third is effected by direct movement in the outer parts, in the following manner, viz.—



i. e. by omitting the octave and doubling the sixth to avoid two inner octaves thus—



which is highly objectionable, and offensive to the ear, independently of the improper treatment of the minor third; which, in reality, being a minor dominant seventh, descends one degree. Thus the harmony of the sixth accompanying the second of the scale, does not take its root from the third, but the fifth below.

The passage from the third to the fourth of the scale must be effected obliquely, thus—



when the sixth prepares the fifth in the acute part, and the sixth of the mean part cadences to the sixth of the next degree D; the octave E, to avoid direct inner octaves, rises a fourth to A.

The passage from the fourth to the fifth of the scale is made by contrary movement, thus—



in order not only to avoid following fifths, as in the next example, viz.—



but to give the proper resolution of the C, which, together with its harmony, is an example of the seventh of the second species, the seventh descending one degree.

The passage from the fifth to the sixth, for obvious reasons, requires the following treatment, thus—



From the sixth to the seventh we proceed thus—



and from the seventh to the octave thus—



As the major sixth was introduced upon the descending third interval of Viadana's harmonized scale, the diminished fifth may with equal propriety be introduced upon the ascending third degree of that scale. See examples 21 and 22. These contrivances aptly display the means whereby we modulate from the key of C into others of immediate affinity. For example, the diminished fifth, accompanying the third of the scale, may be invariably considered and treated as a dominant seventh, for the purpose of establishing the subdominant of the mode as a new key instead of the original one, as the major sixth, accompanying the descending third interval of the scale, may be similarly employed to bring about the dominant of the mode, as a new key. See examples 23 and 24.

For about a century and a half previous to the publication of the celebrated Treatises of Cloron, Cotel, Momigny, and Reicha, Viadana's harmonised scale formed the foundation of all musical theories, excepting those by Rameau and Tartini. Of late, by men celebrated at once as composers and theorists of the first order, this scale has however been found, not only inefficient for the explanation of many points relative to the science, but as placing restrictions of an unnecessary description upon the inventions of genius: the study of the powers of the dominant, together with their different operations upon the tonic, being alone sufficient to guide the student in his description of the various harmonic combinations of sounds, as derived from the unerring principles of nature. Indeed Reicha declares the scale of no importance whatever, but as showing the positions upon which the different harmonies are placed.

But although, in general practice, consecutive fifths and octaves are forbidden, instances of their successful employment may be found in works of classical reputation; these, principally of a melodic description, are explained in the 25th and following examples.

Thus the hidden fifths and octaves, in examples 25 and 26, are correct specimens of writing: the upper note of the former example ascending or descending, one degree, and the bass of the latter descending a fifth. In a melodic view the treatment of the F, in example 27, holds good, when the bass descends a fourth, and the melodic note descends a minor third. A perfect fifth may be followed by a diminished fifth, but on no account must a diminished fifth be followed by a perfect one. The octaves in example 28 are disallowed, but the consecutive fifths in the following one are frequently met with in the works of Haydn, Mozart, and Handel. These same observations extend to the employment of the fifths and octaves in examples 30 and 31: the fifth of each being considered as melodic notes, or appoggiature. The example 33 is a correction of the one numbered 32.

Most airs are capable of a melodic, a dominant, and a modal accompaniment; they are also susceptible of a variety of basses. To be understood upon this subject, we will select the two first measures only of the simple tune of Robin Adair, the familiarity of which will, perhaps, enable us more effectually to display the whole force of harmonic accompaniment than any composition we could devise for that purpose. The example 34 is one of melodic harmonisation, that of 35 is of a modal description, and that of 36 of a dominant one. As we describe only the elements of music and not those of genius, to decide upon the preference of either of these arrangements were, here, uncalled for. Suffice it, however, to say that the second is an artful, and the last a natural arrangement. The cadencing of the F of the first measure upwards being contrary to nature, the example 37 is inferior to the one marked 34. The example 38 is also contrary to nature, the first C in the melody of the second measure not belonging to the subdominant of the scale. To produce variety of expression, airs are occasionally accompanied a third above the notes composing them, as in ex-

ample 38, where the thirds proceeding throughout the passage, show, to a demonstration, that the C of the example 37 belongs to the tonic harmony only. This observation is doubly verified in example 39, i. e. according to the principles of nature, where the bass note, continuing throughout the two measures constitutes a dominant pedal bass, as the example 35 constitutes a tonic pedal bass. The example 40 comprises the whole of the materials of musical science, consequently of all the notes of which an air may be ornamented or colored; these notes, which are situated between those of the dominant and tonic description, come under the denomination of melodic, or passing notes, also of essential and unessential notes; and they are capable, by prolongations, &c., of being varied ad infinitum. See example 43.

After what has been said upon the necessity of regularly resolving all dissonances, it may be asked why do the ninth, the seventh, and the fourth occasionally take different directions to those allotted them in theory, as also the following progressions of sounds, most grateful to the ear, yet in direct opposition to all the principles laid down by the most eminent theorists of the past and the present age?



Such is the imperfection of all human endeavours that, in our efforts to describe these several combinations of sound, and of their operations upon each other, all our scientific rules, and our boasted principles of philosophy, at once desert us; and, as in many other sciences derived from nature, there are certain points beyond our comprehension, we can only confess, however humiliating, that inasmuch as these deviations from established rules are of themselves of the most grateful description to the ear, which, after all our speculations is the sole test of musical science, they must be admitted into practice.

Besides these instances of deviations from established rules we cite, from the works of Haydn, Bach, Handel, Mozart, Beethoven, and Hummel, the most satisfactory examples of dissonances ascending one degree previous to their dissolution into perfect harmony; they are however, easily understood, and highly interest the feelings; of these the diminished fifth, minor seventh, augmented sixth, and diminished seventh form the principal features, viz.—





The method of writing contained in the last of these specimens is becoming obsolete; the interval of the diminished seventh being used, in all late works of established excellence, to express the nature and qualities of the augmented sixth, when placed in the highest part, as in the fourth of the foregoing specimens. But care must be taken not to confound the principles of this optional mode of writing with those appertaining to intervals, or, more properly speaking, transitions of an enharmonic nature, which, as will be presently shown, are totally of an opposite description.

An enharmonic transition consists of a succession of two notes of the same sound to the ear, but which, in order to bring about other means than can possibly be effected by the adoption of the augmented sixth, or diminished seventh alone, are placed upon two different degrees of the staff, thus; cadencing into the key of A flat, viz.—



whereas the augmented sixth, as also the diminished seventh, which are the means by which enharmonic transitions are effected, ascending a minor semitone, effect a cadence into the key of B-flat. See examples 49 and 50. The example 51 is a specimen from Catel; the bottom line shows the roots of the different harmonies.

Great doubt has existed in the minds of many theorists of reputation as to the proper progression of perfect harmonies, without the admixture of governing or imperfect ones. Reicha, to whom we are indebted for much valuable information, has set this point at rest in his work *Cours complet d'Harmonie et Composition*, from which we extract the following golden rules upon the subject.

Bass notes, accompanied with the major third and fifth, as C, may descend a fifth to F, major or minor, but, for obvious reasons, the perfect minor harmony of C cannot be followed by the major perfect harmony of F; bass notes may also descend, which is technically termed inferior movement, a fourth as C, G, below, accompanied as perfect harmonies; they may also proceed by thirds inferior as C, A, below; also by fourths above, termed superior movement as C, F, next above, accompanied by the third and fifth; progressions of sixths superior as G E, are allowable; also those of fifths superior as C G. In a piece of music of which the key has been well established, as for example C, two perfect harmonies in four parts may follow each other by seconds, su-

perior, or inferior, as CD, or DC, i. e. from the first to the second degree of the scale; from the fourth to the fifth degree, or vice versa, as F G, G F; and also from the fifth to the sixth, or from the sixth to the fifth degree, as G A, or A to G, accompanied with the third and fifth, the whole of which must be effected by contrary movement. But these last three cases must be considered rather as exceptions and therefore the less frequently to be employed. Fundamental basses proceeding a third superior, or, which is the same thing, a sixth inferior, appear to blend less freely than other successions, but they cannot be entirely excluded from practice. To render them agreeable, care must be taken that the perfect harmony, as applied to the third of the scale, be followed by the perfect harmony of the fifth below, as in examples 41 and 42.

Upon the subject of the accompaniment, and even of the formation of the minor scale, much variety of opinion still exists. Rameau, from the difficulty of accounting for its origin (see *SOUND*), and of the proper mode of accompanying it, declares that the scale has no foundation in nature, and that the whole system, together with the minor third, is a production only of human industry. Momigny ingeniously describes the minor and major systems by the following tetrachords, viz.—

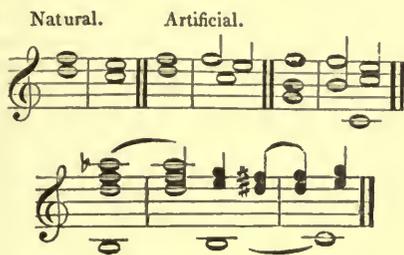


a principle, it must be confessed, never to be disproved. Some will maintain that the notes constituting the minor sixth and major seventh should be heard ascending as well as descending the minor scale, and, notwithstanding the anomaly of three half tones in the octave and the ascent of the minor sixth to the major seventh by an interval of a tone and a half, such are the arguments in support of it, that the system must not be suffered to be passed over unnoticed. But, according to the principles of harmony hitherto established, the minor sixth descends a diminished seventh to amalgamate with the harmony of the dominant, as in example 51. This, together with the fact that the harmony of the ascending major sixth tends to establish the key note of the minor mode, shows that the example 52 must be considered as the generally received harmonised minor scale.

Upon the subject of the modern modes, and of the variety of opinions expressed as to the construction of the minor mode, we may derive, as in many other sciences, a salutary lesson from the ancient Greeks, who, being doubtless acquainted with the peculiar powers of the major sixth and minor sixth, as applied to the minor scale, adopted different modes to express them in a proper manner. See page 267 of our history. Pythagoras, it should seem, gave his whole attention to the formation of the minor scale, considering the major one as sufficiently explaining itself.

The principles constituting natural harmony being fully developed, a few observations will

suffice for the explanation of those constituting artificial harmony, which consists of prolongations, anticipations, syncopations, &c., and may be simple or compound, thus—



Syncopations are in general retardations of sounds, and are always placed upon the unaccented parts of the measure, the last note of which must correspond with the rest preceding the first note of the syncopated passage, which may be of long or short duration. See example 48. Anticipations differ from prolongations, the F sharp and D sharp, in the second measure of the last example, anticipating the dissonant accompaniment given to the C in the following measure. These examples require no further explanation. Pedal notes, accompanying various combinations of sounds, alternately forming integral parts of them, come under the denomination of artificial harmony (see example 45), when the C forms a central dominant pedal. Dissonances may be transformed into consonances throughout a succession of measures. In example the seventh, B flat (46) becomes transformed into a major third to resolve D C instead of A; as the major seventh, the natural progression of which is upwards, becomes transformed into a minor seventh, resolving upon A, example 47.

Our remarks upon the powers of the flat and sharp, as applied to the accompaniment of the major scale of C, page 295, have tended to show the principles by which dominant and subdominant modulations are effected. By a similar process, i. e. of raising the sixth one-half tone in the accompaniment of the descending second of the scale, a change is effected into the relation-minor of C, viz. A minor. See example 63. When, as in the case of the dominant and subdominant modulation, the alteration of the minor sixth into a major one constitutes the major third of the dominant or governing harmony. All modulations are effected by these means. It must, however, be understood, that although these dominant harmonies do govern, they are not of themselves sufficient to establish the mode of a piece of music; this is left to the powers of the fourth of the scale to effect, as in the examples already cited. The established formation of the perfect cadence; viz. by means of the harmony of the dominant and unprepared fourth of the scale, is considered so far effected, that, should the composer feel disposed to lengthen the period, he has only the option of interrupting the cadence by superseding the major resolution by a relative minor one, or by giving an inversion of the major resolution, as in examples 55, 56,

57, and 58. These are the modulations by which Haydn, Mozart, and all the Italian masters up to the time of Cimarosa, have immortalised themselves. Thus in music, as in works of a literary nature, the best composer is the one who effects the most upon the least materials. The youthful composer will do well to keep this in mind, as also, that, in proportion to the want of genius to invent natural melody and pure harmony, the greater are always the efforts to modulate into the most extraneous keys, and to string together the crudest combinations, as if music should rather be seen through the medium of art than of nature. We do not, however, pretend to confine the subject of modulation within the pale of the dominant, subdominant, and relative minor of the primitive key of a piece of music. Haydn, in the commencement of the second parts of many of his works, the place allotted for the display of musical science, has produced through the medium of lengthened sounds, and intervening harmonies, the most extraordinary yet pleasing modulations. The general rule adopted by Strebel, Hammel, Dussek, and other sonata writers (capriccios and fantazias are out of the question), seems to consist of two keys on each side of the tonic, or their relative minors, making a range of sounds of five keys to work upon. For example, a sonata commences with the tonic or primitive key; the intervals of the key of D are employed to bring about the dominant of the primitive key, for the establishment of the demi-cadence, at the end of the first part, which is G; the ending of the second part being, in all cases, a transposition of the first part, the intervals belonging to the keys of B flat and F natural are expressed for the re-establishment of the primitive key, as also for the formation of a perfect cadence.

Any key may follow a perfect cadence, provided the tonic of the established key form an integral part of the dominant harmony immediately governing the new key. Whether this connecting harmony be or be not expressed is perfectly immaterial, an ellipsis in all similar cases being understood and felt, as in the following popular example—



The flats tending to neutralise the powers of the sharp in the example 42, no transition is effected from the key. All false relations, as in example 59, must be avoided. See FUGUE, CANNON, and COUNTERPOINT.

The study of the works of Haydn will, perhaps, best explain the manner in which musical composition should be conducted.

In addition to the names already mentioned, we insert a list of other composers not less distinguished

guished, whose works will ever be considered as models of taste and expression.

Albrechtsberger.	Knecht.
Astorga.	Leo.
Bach, Sebastian.	Lotti.
Bach.	Mozart.
Boccherini.	Marcello.
Bassani.	Neefe.
Bishop.	Paradies.
Cramer.	Pleyel Ignace.
Clementi.	Palestrina.
Corelli.	Purcell.
Cimarosa.	Perez.
Caldara	Pergolese.
Clari	Porpora.
Durante.	Romberg.
Dussek.	Righini.
Gluck.	Scarlatti.
Gretry.	Steibelt.
Haydn.	Sola.
Himmel.	Rink.
Hummel.	Sterkel.
Handel.	Winter.
Haessler.	Weigle.
Hasse.	Woelfl.
Jomelli.	Viotti.
Jackson.	Zingarelli.
Hozeluck.	

OF TEMPERAMENT.—The alterations which we have observed in the intervals between particular sounds of the diatonic scale, naturally lead us to speak of temperament. To give a clear idea of this, and to render the necessity of it palpable, let us suppose that we have before us an instrument with keys, a pianoforte, for instance, consisting of several octaves or scales, of which each includes its twelve semitones. Let us choose in that pianoforte one of the strings which will sound the note C, and let us tune the string G, to a perfect fifth with UT in ascending; let us afterwards tune to a perfect fifth with this G the D which is above it; we shall evidently perceive that this R E will be in the scale above that from which we set out; but it is also evident that this D must have in the scale a D which corresponds with it, and which must be tuned a true octave below D; and between this and G there should be the interval of a fifth; so that the D in the first scale will be a true fourth below the G of the same scale. We may afterwards tune the note E A of the first scale to a just fifth with this last D; then the note E in the highest scale to a true fifth with this new A, and of consequence the E in the first scale to a true fourth beneath this same A: having finished this operation, it will be found that the last E,

thus tuned, will by no means form a just third major from the sound G; that is to say, that it is impossible for F to constitute at the same time the third major of C and the true fifth of A; or, what is the same thing, the true fourth of A in descending.

What is still more, if, after having successively and alternately tuned the strings C, G, D, A, E, in perfect fifths and fourths one from the other, we continue to tune successively by true fifths and fourths the strings E, B, F \sharp , C \sharp , G \sharp , D \sharp , E \sharp , B \sharp ; we shall find, that, though G \sharp , being a semitone higher than the natural note, should be equivalent to C natural, it will by no means form a just octave to the first C in the scale, but be considerably higher; yet this B \sharp upon the harpsichord ought not to be different from the octave above UT; for every B \sharp and every C is the same sound, since the octave or the scale only consists of twelve semitones.

From thence it necessarily follows, 1. That it is impossible that all the octaves and all the fifths should be just at the same time, particularly in instruments which have keys, where no intervals less than a semitone are admitted. 2. That, of consequence, if the fifths are justly tuned, some alteration must be made in the octaves; now the sympathy or sound which subsists between any note and its octave does not permit us to make such an alteration; this perfect coalescence of sound is the cause why the octave should serve as limits to the other intervals, and that all the notes which rise above or fall below the ordinary scale are no more than replications, i. e. repetitions, of all that have gone before them. For this reason, if the octave were altered, there could be no longer any fixed point either in harmony or melody. It is then absolutely necessary to tune the C or B \sharp in a just octave with the first: whence it follows that, in the progression of fifths, or, what is the same thing, in the alternate series of fifths and fourths, C, G, *re*, A, E, B F \sharp , C \sharp , G \sharp , D \sharp , A \sharp , E \sharp , B \sharp it is necessary that all the fifths should be altered, this will be effected by flattening the successive fifths, beginning with C, which has previously been made in unison with the tuning fork, and taking G D A E B F sharp, C sharp, G sharp, D sharp, A sharp, and E sharp, as flattened fifths, care being taken that this flatness be equally divided among them. One may satisfy himself that this is correctly done if the C coincides with the B sharp without alteration as a fifth to E sharp. In the tuning of organ pipes, on account of their beatings when too flat or too sharp, a partial system of temperament must be observed. The less frequent their beats the more perfect their tune.

MUSIS (Augustine de), a noted engraver, better known by the name of Agostino Veneziano, or Augustin the Venetian, was a native of Venice, and scholar of Raimondi. His first dated print appeared in 1509. After the death of Raphael, in 1520, Agostino, and Marc de Ravenna, his fellow disciple, separated and worked upon their own account. Agostino's latest prints are dated 1536; whence it is supposed he did not long survive that period. He imitated the style of his master, and was the most successful of all his scholars; though in taste and in correctness of outline he fell short of him.

MUSK, *n. s.* } Pers. *mushk*; Arab. *mooshk* ;
MUSK-CAT, } Fr. *musc* ; Ital. *musco* ; Lat.
MUSK'Y, *adj.* } *muscus*. An oriental perfume. See below. The musk-cat is an animal which yields it.

Some putrefactions and excrements yield excellent odours; as civet and *musk*. *Bacon.*

Musk is a dry, light, and friable substance of a dark blackish colour, with some tinge of a purplish or blood colour in it, feeling somewhat smooth or unctuous: its smell is highly perfumed, and too strong to be agreeable in any large quantity: its taste is bitterish: it is brought from the East Indies, mostly from the kingdom of Bantam, some from Tonquin and Cochin China: the animal which produces it is of a very singular kind, not agreeing with any established genus: it is of the size of a common goat, but taller: the bag which contains the *musk* is three inches long and two wide, and situated in the lower part of the creature's belly. *Hill.*

In May and June come roses of all kinds, except the *musk*, which comes later. *Bacon.*

There eternal summer dwells,
 And west winds, with *musky* wing,
 About the cedar'd allies fling
 Nard and Cassia's balmy smells. *Milton.*

MUSK. See **MOSCHUS**. According to Tavernier, the best and greatest quantities of musk come from the kingdom of Boutan, whence it is carried for sale to Patna, the capital of Bengal. After killing the animal the peasants cut off the bag, which is about the size of an egg, and is situated nearer the organs of generation than the navel. They next take out the musk, which has then the appearance of clotted blood. When they want to adulterate it, they put a mass of the animal's blood and liver into the place of the musk they had extracted. Others, after extracting a portion of the musk, put in small pieces of lead to augment the weight. But the deceit is still worse to discover, when, of the skin taken from the belly of a young animal, they make little bags, which they sew so dexterously with threads of the same skin, that they resemble genuine bags. These they fill with what they take out of the genuine bags, and some fraudulent mixture, which it is extremely difficult for the merchants to detect. When the bags are sewed immediately on their being cut, without allowing any part of the odor to dissipate in the air, after they have abstracted as much of the musk as they think proper, if a person applies one of these bags to his nose, blood will be drawn by the mere force of the odor, which must necessarily be weakened or diluted to render it agreeable without injuring the brain. Our author brought one of the animals with him to Paris, the odor of

which was so strong that it was impossible for him to keep it in his chamber. It made every head in the house giddy; and he was obliged to put it into a barn, where the servants at last cut away the bag: the skin, notwithstanding, always retained a portion of the odor. The largest musk-bag seldom exceeds the size of a hen's egg, and cannot furnish above half an ounce of musk; three or four of them are sometimes necessary to afford a single ounce. In one of his voyages to Patna, Tavernier purchased 1063 bags, which weighed 1557½ oz.; and the musk, when taken out of the bags, weighed 452 oz. Musk affords the strongest of all known odors; a small quantity of it perfumes a large quantity of matter. The odor of a small particle extends through a considerable space. It is likewise so fixed and permanent, that at the end of several years it seems to have lost no part of its activity. When it comes to us it is dry, with a kind of unctuousity of a dark reddish-brown, or rusty blackish color, in small round grains, with very few hard clots, and perfectly free from any sandy or other visible foreign matter. If chewed and rubbed with a knife on paper it looks smooth, bright, yellowish, and free from bitterness. Laid on a red hot iron, it catches flame, and burns almost entirely away, leaving only an exceedingly small quantity of light grayish ashes: if any earthy substances have been mixed with the musk, the quantity of the residuum will readily discover them. Musk has a bitterish subacid taste: a fragrant smell, agreeable at a distance, but, when smelt near to, so strong as to be disagreeable unless weakened by the admixture of other substances. If a small quantity be infused in spirit of wine in the cold for a few days, it imparts a deep, but not a red tincture: this, though it discovers no great smell of the musk, is nevertheless strongly impregnated with its virtues; a single drop of it communicates to a whole quart of wine a rich musky flavor. The degree of flavor which a tincture drawn from a known quantity of musk communicates to vinous liquors is perhaps one of the best criteria for judging of the goodness of this commodity. Neumann informs us that spirit of wine dissolves ten parts out of thirty of musk, and that water takes up twelve; that water elevates its smell in distillation, whilst pure spirit brings over nothing. Musk is a medicine of great esteem in the eastern countries; among us it has been for some time entirely neglected as a perfume. The medicinal and chemical properties of musk and castor are very similar; the virtues of the former are generally believed to be more powerful, and hence musk is preferred in cases of imminent danger. It is prescribed as a powerful antispasmodic, in doses of three grains or upwards, even to half a drachm. In the greater number of spasmodic diseases, especially in hysteria and singultus, and also in diseases of debility. In typhus it is employed to remove subsultus tendinum, and other symptoms of a spasmodic nature. In cholera it frequently stops vomiting; and, combined with ammonia, it is given to arrest the progress of gangrene. It is best given in the form of bolus. To children it is given in the form of enema, and is an efficacious remedy in the convulsions

arising from dentition. It is also given in hydrophobia, and in some forms of mania.

MUS'KET, *n. s.* } Span. and Port. *mos-*
 MUSKETEER', } *quete*; Fr. *mousquet*; Ital.
 MUSKETOON', } *moschetto*; qu. Lat. *myxa*, a
 MUS'KETRY. } match? A hand gun; also a

small kind of male hawk, from which Dr. Johnson and others suppose the gun to be named: a musketeer is one who uses a musket: musketoona, an old name for the blunderbuss: musketry, a modern collective name for a number of muskets, or musketeers.

Thou

Wast shot at with fair eyes, to be the mark
 Of smoky muskets.

Shakspeare. All's Well That Ends Well.

We practise to make swifter motions than any you
 have out of your muskets.

Bacon.

Here comes little Robin.

—How now my eyas musket, what news with you?

Shakspeare.

When they came near the gate of the town-house,
 they within poured out a volley of musket-shot
 upon them, by which the dean of the church and
 two or three of the magistrates of the town were killed.

Clarendon.

He perceived a body of their horse within musket
 shot of him, and advancing upon him.

Id.

Notwithstanding they had lined some hedges with
 musketeers, they pursued them till they were dispersed.

Id.

They charge their muskets, and, with hot desire
 Of full revenge, renew the fight with fire.

Waller.

The musket and the coystrel were too weak,

Too fierce the falcon; but, above the rest,

The noble buzzard ever pleased me best.

Dryden.

One was brought to us, shot with a musket-ball on
 the right side of his head.

Wiseman's Surgery.

MUSKET, or MUSQUET, is properly a fire-arm
 borne on the shoulder, and used in war; formerly
 fired by the application of a lighted match
 but at present with a flint. The length of the
 barrel is fixed to three feet eight inches from
 the muzzle to the touch pan: its bore is such as may
 receive a bullet of fourteen in a pound, and its
 diameter differs not above one-fiftieth part from
 that of a bullet. The common musket is of the
 calibre of twenty-two balls to the pound; and
 receives balls from twenty-two to twenty-four.
 Muskets were anciently borne in the field by the
 infantry, and were used in England so lately as
 the beginning of the civil wars. At present they
 are little used, except in the defence of places;
 fuses or fire-locks having taken their place and
 name.

Muskets were first used at the siege of Rhegen
 1521. The Spaniards were the first who armed
 part of their foot with these weapons. At first
 they were very heavy, and could not be used
 without a rest. They had match-locks and did
 execution at a great distance. On their march the
 soldiers carried only the rests and ammunition,
 having boys to bear their muskets after them.
 They were very slow in loading, not only by
 reason of the unwieldiness of their pieces, and
 because they carried the powder and ball separate,
 but from the time it took to prepare and
 adjust the match, so that their fire was not near
 so brisk as ours is now. Afterwards a lighter
 match-lock musket came in use; and they carried
 their ammunition in bandeliers, to which

were hung several little cases of wood covered
 with leather, each containing a charge of powder.
 The muskets with rests were used as late as the
 beginning of the civil wars in the time of Charles
 I. The lighter kind succeeded them, and continued
 till the beginning of the eighteenth century,
 when they also were disused, and the troops
 throughout Europe armed with fire-locks. These
 are usually made of hammered iron. For the
 dimensions, construction, and practice of various
 species of guns, muskets, &c., see ARTILLERY,
 CANNON, GUN, MORTAR, and PROJECTILES.

Garrard, Art of Warre, observes, that the
 musket differed from the arquebuse in carrying a
 double bullet. The inconsiderable execution
 done by pieces of small calibre probably occasioned
 the introduction of the musket, or mousquet,
 which originated in Spain in the sixteenth
 century. The fame of the Spanish infantry
 having extended itself over all civilised Europe,
 the English were not long before they adopted
 this new weapon from their enemies. It consequently
 dispossessed the harquebuss. Little short wooden
 arrows, called sprites, were shot from them with
 great success. Grose says, that in 1621 the barrel
 was to be four feet long, capable of receiving
 bullets ten or twelve to the pound. Coryatt
 mentions the muskets of the French king's
 guards as being inlaid with ivory and bone,
 a very common fashion with old fire-arms.
 They were suspended by belts at least as early
 as the time of Charles I. Dr. Meyrick on
 Armour, ii. 41. Branstone says that it was the
 duke of Alva who first brought the musket into
 use, when he went to take upon him the
 government of the Low Countries in the year
 1569, and that Strozzi, colonel-general in the
 French infantry, under Charles IX., introduced
 it into France. He also tells us, that the best
 arquebuses were made at Milan. Ibid. Grose
 says, that muskets were made as early as the
 time of Francis I. but were not in common use
 till 1567 or thereabouts. Andrews supposes
 them to have been used at the battle of Bicoigne
 in 1521, which Henry (x. 285) applies to the
 musket on a stock, and discharged from the
 shoulder, but agrees in the period, adding, that
 it was probably soon after adopted in England.

It was the length and weight of the first
 musket which rendered it necessary to place it,
 when fired, on the fork called a rest. It came
 from the mounted harquebusiers in the reign
 of Charles V. Meyrick iii. 41. According to
 De Bellay (adds Dr. M.) rests had been provisionally
 used for the harquebus, but I have met with
 no representation of the rest before the time
 of Elizabeth, and conceive that he must allude
 to those for the cavalry, on the principle of the
 lancerests, fastened by a hinge to the breast-plate.
 Ibid. It was of various lengths, according to
 the height of the men, and shod with sharp iron
 ferules for sticking into the ground. When on
 the march, and the musket was shouldered,
 the rests were carried in the right hand, or
 hung upon it by a string or loop tied under
 the head. Sometimes these rests were armed
 with a kind of sword-blade, or tuck, called
 a swine's feather, which, being placed before
 the musketeer when loading, served to keep
 off cavalry. The origin

of the swine's feather is thus explained. In the latter part of the reign of James I., says Dr. Meyrick, 'some attempts were made to convert the rest into a defence against cavalry. Martels-de-fer and small pole-axes had a tuck enclosed in them, which, by touching a spring, opened a small valve and sprung out. The rest, instead of having a wooden shaft, was now made of a thin tube of iron, like those pole-axes which were covered with leather, and armed with a tuck in the same manner. Rests thus armed were said to contain Swedish, or swine's feathers; perhaps from sweyn, German, a wild boar, i. e. a boar's bristle. During the Protectorate rests were disused. The first muskets were match-locks. The origin of the bayonet, has, however, a connexion with the swine's feather. The duke of Albemarle, in the time of Charles II., recommended arming the musketeers and dragoons with muskets having swine's feathers with the heads of rests fastened to them. The swine's feather was to be in a sheath, so as to serve like a tuck in walking sticks, but capable of being drawn out and fixed in the muzzle of a gun. Turner, however, who wrote in 1670, observes, that this and the other apparatus were only awkward contrivances to protect the musketeer against cavalry after he had fired, and before he had re-loaded. The swine's feather resting being thus laid aside, and the swine's feather itself being awkward to manage, such soldiers as were armed with daggers were induced to stick them into the muzzles of their pieces. This gave origin to the bayonets, which were first made at Bayonne. They were called by the French bayonets à manche, and introduced into their army in 1671. They were formed with tight handles, to fit well into the muzzles, and rather enlarging towards the base, to prevent their entering too far into the piece. A Military Dictionary of 1694 calls the bayonet a dagger stuck into the piece by men who covered the musketeers when they were to fire. In order to allow the piece to be fired, and preserve the use of the dagger, it was next fastened by two rings to the barrel; lastly, by a socket, as now. It superseded the pike.

The principal part of these instruments is the barrel, which ought to have the following properties: 1. Lightness, that it may incommode the person who carries it as little as possible. 2. Sufficient strength and other properties requisite to prevent its bursting by a discharge. 3. It ought to be constructed in such a manner as not to recoil with violence. And, 4. It ought to be of sufficient length to carry the shot to as great a distance as the force of the powder employed is capable of doing. The force of gunpowder is manifestly augmented in close vessels, by being compressed together; but this arises from another cause, namely, that a greater quantity of flame is compressed in the same space, than when the powder is not rammed; and this compression of the flame is in proportion to the compression of the powder in the piece. But the quantity enclosed in a small space may probably make up for the quality. In firing muskets with small shot, a curious circumstance sometimes occurs, viz. that the grains, instead of being equally distributed over the space they strike are thrown

in clusters of ten, twelve, fifteen or more; whilst several considerable spaces are left without a grain in them. Sometimes one-third or one-half of the charge will be collected into a cluster of this kind; nay, sometimes, though much more rarely, the whole charge will be collected into one mass, so as to pierce a board nearly an inch thick at the distance of forty or forty-five paces. Small barrels are said to be more liable to this clustering than large ones; and M. de Marolles informs us, that this is especially the case when the barrels are new, and likewise when they are fresh washed; though he acknowledges that it did not always happen with the barrels he employed even after they were washed. It is probable, therefore, that the closeness of the shot depends on some circumstance relative to the wadding rather than to the mechanism of the barrel.

The *manufacture* of fire-arms is now carried to such a degree of perfection by different European nations, that it may perhaps justly be doubted whether any farther improvement in the requisites just mentioned can be made. For the materials the softest iron that can be procured is to be made use of. The best in this country are formed of stubs, as they are called, or old horse-nails; which are procured by gunsmiths from farriers, and from poor people who subsist by picking them up on the great roads leading to London. These are sold at about 10s. per cwt. and 28 lbs. are requisite to form a single musket barrel.

The method of *manufacturing* musket barrels is as follows:—A hoop of about an inch broad, and six or seven inches diameter, is placed in a perpendicular situation, and the stubs, previously well cleaned, piled up in it with their heads outermost on each side, till the hoop is quite filled and wedged tight with them. The whole then resembles a rough circular cake of iron; which being heated to a white heat, and then strongly hammered, coalesces into one solid lump. The hoop is now removed, and the heatings and hammerings repeated till the iron is rendered very tough and close in the grain; when it is drawn out into pieces of about twenty-four inches in length, half an inch or more in breadth, and half an inch in thickness. Four of these pieces are employed for one barrel; but in the ordinary way a single bar of the best soft iron is employed. The workmen begin with hammering out this into the form of a flat ruler, having its length and breadth proportioned to the dimensions of the intended barrel. By repeated heating and hammering, this plate is turned round a tempered iron rod called a mandril, the diameter of which is considerably smaller than the intended bore of the barrel. One of the edges of the plate being laid over the other about half an inch, the whole is heated and welded by two or three inches at a time, hammering it briskly, but with moderate strokes, upon an anvil which has a number of semicircular furrows in it, adapted to barrels of different sizes. Every time the barrel is withdrawn from the fire, the workman strikes it gently against the anvil once or twice in an horizontal direction. By this operation the particles of the metal are more perfectly

consolidated, and every appearance of a seam in the barrel is obliterated. The mandril being again introduced into the cavity of the barrel, the latter is very strongly hammered upon it in one of the semicircular hollows of the anvil, by small portions at a time; the heatings and hammerings being repeated until the whole barrel has undergone the operation, and its parts rendered as perfectly continuous as if they had been formed out of a solid piece. To effect this completely, three welding heats are necessary when the very best iron is made use of, and a greater number for the coarser kinds. The next operation in forming the barrels is boring them, which is done thus:—Two beams of oak, each about six inches in diameter, and six or seven feet long, are placed horizontally and parallel to one another; having each of their extremities mortised upon a strong upright piece about three feet high, and firmly fixed. A space of three or four inches is left between the horizontal pieces, in which a piece of wood is made to slide, by having at either end a tenon let into a groove, which runs on the inside of each beam throughout its whole length. Through this sliding piece a strong pin or bolt of iron is driven or screwed in a perpendicular direction, having at its upper end a round hole large enough to admit the breech of the barrel, which is secured in it by a piece of iron that serves as a wedge, and a vertical screw passing through the upper part of the hole. A chain is fastened to a staple in one side of the sliding piece which runs between the two horizontal beams; and, passing over a pulley at one end of the machine, has a weight hooked on it. An upright piece of timber is fixed above this pulley and between the ends of the beams, having its upper end perforated by the axis of an iron crank furnished with a square socket; the other axis being supported by the wall, or by a strong post, and loaded with a heavy wheel of cast iron to give it force. The axes of this crank are in a line with the hole in the bolt. The borer, being then fixed into the socket of the crank, has its other end, previously well oiled, introduced into the barrel, whose breech part is made fast in the hole of the bolt; the chain is then carried over the pulley, and the weight hooked on; the crank being then turned with the hand, the barrel advances as the borer cuts its way, till it has passed through the whole length. The boring bit consists of an iron rod somewhat longer than the barrel, one end of which fits the socket of the crank; the other is adapted to a cylindrical piece of tempered steel about an inch and a half in length, having its surface cut like a perpetual screw, with five or six threads, the obliquity of which is very small. The breadth of the furrows is the same with that of the threads, and their depth sufficient to let the metal cut by the threads pass through them easily. Thus the bit gets a very strong hold of the metal; and the threads, being sharp at the edges, scoop out and remove all the inequalities and roughness from the inside of the barrel, and render the cavity smooth and equal throughout. A number of bits, each a little larger than the former, are afterwards successively passed through the barrel in the same way, until the bore has acquired the magnitude

intended. By this operation the barrel is very much heated, especially the first time the borer is passed through it, and is apt to warp. To prevent this, in some measure, the barrel is covered with a cloth kept constantly wetted, which not only preserves the barrel from an excess of heat, but likewise preserves the temper of the bit from being destroyed. The borer itself must also be withdrawn from time to time; both to clean it from the shavings of the metal and to oil it, or repair any damages it may have sustained. Every time a fresh bit has been passed through the barrel, the latter must be carefully examined, to see if it has warped; and likewise if there are any spots, by the workmen called blacks, on its inside. When warped, it must be straightened on the anvil; for which a few slight strokes on the convex part will be sufficient; and this is termed setting up the barrel. When black spots are perceived, the corresponding part on the outside must be marked, and driven in by gentle strokes with the hammer, when they will be completely removed by passing the borer another time through the piece. The equality of the bore is of the utmost consequence to the perfection of a barrel; insomuch that the greatest possible accuracy in every other respect will not make amends for any deficiency in this respect. The method used by gunsmiths to ascertain this is by a cylindrical plug of tempered steel highly polished, about an inch in length, and fitting the bore exactly. This is screwed upon the end of an iron rod, and introduced into the cavity of the barrel, where it is moved backwards and forwards; and, the places where it passes with difficulty being marked, the borer bit is repeatedly passed until it moves with equal ease through every part. Any person who wishes to know the merit of his piece in this respect, may do it with tolerable accuracy by means of a plug of lead cast on a rod of iron; or even by a musket-ball filed exactly to the bore, and pushed through the barrel by a ramrod; taking care, however, not to use much force lest the ball be flattened, and its passage thus rendered difficult. The last step towards the perfection of the inside of the barrel is termed fine-boring; by which is meant the smoothing it in such a manner as to remove all marks and inequalities left by the borer. The fine borer resembles the other in its general construction; but, instead of the piece of steel cut in form of a screw which belongs to that, it is furnished with a square broach ten or twelve inches long, highly polished, and very sharp, by which means it cuts the metal very smoothly. It answers the purpose best when only two of its edges are allowed to work; the other two are covered with slips of oiled paper, one or more additional slips being put on each time that the instrument is passed through the barrel. The fine borer is frequently passed through, from the muzzle to the breech, and from the breech to the muzzle, until the whole inside presents a perfectly equal and polished surface, the barrel being likewise examined and set up, if requisite, after each time. It is absolutely necessary that this instrument should be perfectly true, and not in the least cast or warped in the tempering.

Besides the operations above described, another, called *polishing*, is usually performed on gun barrels, though it is doubtful whether this last be attended with any good effect or not. It is performed by a cylinder of lead, five or six inches long, cast upon a rod of iron, and filed exactly to the bore. The lead, being then covered with very fine emery and oil, is wrought backwards and forwards through the whole length of the barrel, until the inside has acquired the requisite degree of polish. The disadvantages of this operation are, that it is scarce possible to perform it without pressing more upon one part than another, and thus producing some degree of inequality on the inside, which is of the very worst consequence to fire-arms. The polish thus given is likewise very perishable; so that the fine-boring may justly be considered as the last operation necessary for the inside of a barrel; and it is then proper to give the external form and proportions by a file. For this purpose four faces are first formed upon it, then eight, then sixteen; and so on till it be quite round, excepting the part next the breech, called the reinforced part, which is always left of an octagonal form. It being absolutely necessary that the barrel should be equally thick on every side, gunsmiths employ, for accomplishing this purpose, a particular tool named a compass. This consists of an iron rod bent in such a manner as to form two parallel branches about an inch from one another. One of these is introduced into the barrel, and kept closely applied to the side by one or more springs with which it is furnished; the other descends parallel to this on the outside, and has several screws passing through it with their points directed to the barrel. By screwing these until their points touch the surface of the barrel, and then turning the instrument round within the bore, we perceive where the metal is too thick, and how much it must be reduced, in order to render every part perfectly equal throughout its circumference. It may be made long enough to reach the whole length of the barrel, though it will be more convenient to have it only half as much, and to introduce it first at one end and then at the other. Instead of rounding the barrel by means of a file and compass, however, some people do so by turning it in a lathe; which is no doubt more expeditious, though neither so certain nor exact. A spindle as long as a gun-barrel cannot, without great difficulty, be prevented from springing considerably under the tool employed to reduce or smooth it in turning; whence it is found, that by this operation barrels are more frequently warped than by all the borings they undergo; and there is now this farther inconvenience, that they cannot be set up as formerly, without danger of destroying them entirely. The barrels being thus bored and formed externally, it is customary with the gunsmiths in France to solder on the loops and aim before they breech the barrel. The English, however, do not restrict themselves in this manner; for, as soft solder is sufficient for fastening on these, they never use any other; while the French, who use hard solder, must of consequence employ a great heat. Thus the inside is toughened sometimes so considerably, that it is

necessary to repeat the fine-boring; which cannot be done without injuring the threads of the screw formed for the breach, if the barrel were prepared for the latter without soldering on the former. The first tool used in forming the breech-screw is a plug of tempered steel, somewhat conical, with the threads of a male screw upon its surface, and by the workmen termed a screw-tap. This being introduced into the barrel, and worked from left to right and back again, until it has marked out the four first threads of the screw, another less conical tap is introduced; and, when this has carried the impression of the screw as far as it is intended to go, a third one, nearly cylindrical, is made use of, scarcely differing from the plug of the breech intended to fill the screw thus formed in the barrel. The plug itself has its screw formed by a screw-plate of tempered steel, with several female screws, corresponding with the taps employed for forming that in the barrel; seven or eight threads are a sufficient length for a plug: they ought to be neat and sharp, so as completely to fill the turns made in the barrel by the tap. The breech plug is then to be case-hardened, or to have its surface converted into steel, by covering it with shavings of horn, or the parings of the hoofs of horses, and keeping it for some time red hot; after which it is plunged in cold water. The only thing now requisite for completing the barrels is to give them a proper color; as a preparation for which their outside is first to be neatly polished with oil and emery. This being done, it was formerly the custom to give such a degree of heat as would make them blue throughout; but as this cannot be effected without a partial calcination of the surface, which of consequence affects the inside also, the blue color has been for some time disused, and a brown one substituted in its place. To give this color, the pieces are first rubbed over with aquafortis or spirit of salt diluted with water; after which they are laid by till a complete coat of rust is formed upon them; a little oil is then applied; and the surface, being rubbed dry, is polished by a hard brush and bees' wax. Thus the common musket-barrels for the purposes especially of sportsmanship are made; but there are some other methods of manufacture, by which the barrels are made to differ in some respects from those just described, and are thought to be considerably improved. One kind of these are called twisted barrels; and by the English workmen are formed out of the plates made of stubs. Four of these are requisite to make one barrel. One of them, heated red hot for five or six inches, is turned like a cork-screw by the hammer and anvil; the remaining parts being treated successively until the whole is turned into a spiral, forming a tube, the diameter of which corresponds with the bore of the intended barrel. Four are generally sufficient to form a barrel of the ordinary length, i. e. from thirty-two to thirty-eight inches; and the two which form the breech or strongest part, called the reinforced part, are considerably thicker than those which form the muzzle or fore part of the barrel. One of these tubes is then welded to a part of an old barrel to serve as a handle; after which the

turns of the spiral are united by heating the tube two or three inches at a time to a bright white heat, and striking the end of it several times against the anvil, in a horizontal direction, with considerable strength, which is called jumping the barrel; and the heats given for this purpose are called jumping heats. The next step is to introduce a mandril into the cavity, and to hammer the heated portion lightly, in order to flatten the ridges or burs raised by the jumping at the place where the spirals are joined. As soon as one piece is jumped throughout its whole length, another is welded to it, and treated in the same manner, until the four pieces are united, when the part of the old barrel is cut off, as being no longer of any use. The welding is repeated three times at least, and is performed exactly in the same manner as for plain barrels; and the piece may afterwards be finished according to the directions already given.

The operation for the *twisted barrels* is very different from that just mentioned, and much more exceptionable. It consists in heating the barrel by a few inches at a time to a strong red heat; one end is then screwed into a vice, and a square piece of iron with a handle like an auger is introduced into the other. By these the fibres of the heated portion are twisted into a spiral direction, which is supposed to resist the effort of the inflamed powder better than the other. To render this operation complete, however, it must be observed, that when once the several portions of the barrel have been twisted, the subsequent heats ought not to be very great, or the grain of the metal will regain its former state, and the barrel be no better for the twisting than before. To twist a barrel in this manner, also, it will be necessary to forge it at least half a foot longer than it is intended to be, that a sufficient length may be kept cold at each end to give a sufficient purchase to the vice and twisting instrument; and these portions must afterwards be cut off before the barrel is bored, or two pieces of an old barrel may be welded to the muzzle and breech of that which is to be twisted, and cut off when the operation is over. These pieces may also be made stronger than usual to resist the force of the vice and twisting instrument; and, to give the latter a firmer hold, the cavity of the muzzle may be made of a square form. The English workmen are unanimously of opinion that this method of twisting is really injurious to the barrel, by straining the fibres of the metal. At any rate, from the injudicious methods followed by the French artists, the greatest part of their barrels, said to be twisted, are not so in reality; there being at least six or seven inches at the muzzle, and seven or eight at the breech, which are not affected by the operation. The French ribbon barrels have a great resemblance to the English twisted ones; but the process for making them is much more operose, though it seems not to possess any real advantage. A plate of iron, about the twelfth part of an inch in thickness, is turned round a mandril, and welded its whole length like a plain barrel. Upon this slight barrel, which is called the lining, a plate of iron about an inch in breadth, and bevelled off at the edges, is by

means of successive heats rolled in a spiral direction; after which it is termed the ribbon, and must have a thickness corresponding with that part of the barrel which it is to form. As it would, however, be difficult to form a ribbon of sufficient length for the whole barrel, it is made in several pieces; and, when one piece is rolled on, another is welded to its end, and the operation continued until the lining be entirely covered. The edges are so much bevelled that the one folds over the other about a quarter of an inch. After the ribbon is all rolled on, the barrel must be heated by two or three inches at a time, and the turns of the spiral united to each other and to the lining, by being welded in the same manner as the twisted barrel; though it is plain that the operation of jumping cannot be admitted. The barrel is afterwards bored in such a manner that almost the whole of the lining is cut out, and scarcely any thing left but the ribbon with which the lining was covered. The superiority of twisted and ribbon barrels over the plain kind gave occasion to a third sort, named *wired barrels*. These were invented by an ingenious workman at Paris, named Barrois; whose method was as follows:—Upon a thin barrel, filed and dressed as usual, he rolled, as closely as possible, and in a spiral direction, a tempered iron wire about the thickness of a crow quill, the first layer covering only the reinforced part. The turns of the wire were soldered to each other, and to the barrel, with a composition which he kept a secret. The wired part was then filed smooth and bright, but not so much as to weaken it; a second layer of wire was applied over the first, extending two-thirds of the length of the barrel; and this being smoothed and brightened like the first, a third layer was applied, which covered the two former, and reached quite to the muzzle. The barrels made after this manner are supposed to be superior to others, but it is certain that wire is not preferable to other iron as a material for gun-barrels; and the solder used by M. Barrois, in a quantity nearly equal to the wire itself, must be accounted a defect; for no metal is equal to iron for strength: so that by the use of solder in the composition of the barrel, it must be undoubtedly weaker than if it had been all made of iron.

Spanish barrels have long been held in great estimation, both on account of their being formed of better iron than those of other countries, and likewise from an opinion of their being more perfectly forged and bored. Those made at Madrid are the best, and even of these such as have been made by former gunsmiths are in the greatest estimation. The most celebrated Spanish gunsmith was Nicolos Biz, who lived in the beginning of the last century, and died in 1724; and the barrels fabricated by him in the former part of his life are held in great estimation. Those of his contemporaries, John Belan and John Fernandez, are no less valued; all of their barrels selling in France at 1000 livres or £45 15s. sterling. Almost all the Madrid barrels are composed of the old shoes of horses and mules, and manufactured first by welding longitudinally, and then being joined together in four or five pieces like the English barrels. In this opera-

tion an immense waste of the iron takes place; but that of the Spanish iron is by far the greatest, a mass of forty or forty-five pounds being required to make one barrel, which, when rough from the forge, weighs only six or seven pounds; so that from thirty to thirty-eight pounds are lost in the hammerings. It may be doubted whether the iron be really purified by this waste; for it is certain that by long continued working in the fire it may be rendered totally useless. The Spanish artists likewise value themselves on giving the inside of their barrels a very high polish; but, in the opinion of good judges, it is better to take a barrel immediately after it has undergone the operation of fine-boring, than to give it any higher polish. M. de Marolles, an author of great reputation, says, he has seen a barrel, rough from the borer, throw a charge of shot deeper into a quire of paper, than one which was highly polished within, though the length, bore, and charge, were the same in both. As the Spanish iron is universally allowed to be excellent, it is probable that the superiority of the Spanish barrels is owing more to the goodness of the materials than to the skill of the workmen. Instead of making the plates overlap a little, in the place where they join, they give one of them a complete turn; so that every Spanish barrel may be said to be double throughout its whole length. The different portions of the iron are likewise so forged, that the grain of the iron is disposed in a spiral manner; whence it has the same effect with a ribbon or twisted barrel. The outside is finished by turning them in a lathe; whence they are less elegantly wrought than the French and English pieces. Formerly they were made from three feet to three feet and a half long; their bore being such as to admit a bullet from twenty-two to twenty-four in the pound; and their weight from three pounds to three pounds and a half. The reinforced part extends two-fifths of the length; and at ten or twelve inches from the breech is placed a sight, such as is usually put upon the rifle-barrels, or those intended only for ball. According to Espinas, arquebuss-bearer to Philip IV., the weight of a Spanish barrel ought to be four pounds and a half when their length is forty-two inches: but both weight and length are now much reduced. Next to the barrels made at Madrid, the most esteemed are those of Bustindui, and St. Oiahe at Placentia in Biscay; and of John and Clement Padwestevo, Eudal Pous, and Martin Marechal, at Barcelona; the usual price being about £3 10s. sterling. The principal modern improvement in the manufacture of muskets is the percussion lock, for which see PERCUSSION.

Having described the method of forging barrels, we proceed to give an account of those *imperfections* to which they are sometimes liable, and which render them apt to burst or recoil with violence. The principal of these are the chink, crack, and flaw. The first is a small rent in the direction of the length of the barrel; the second across it; and the third is a kind of scale or small plate adhering to the barrel by a narrow base, from which it spreads out like the head of a nail from its shank, and, when separated, leaves a pit or hollow in the metal. The chink and

flaw are of much worse consequence than the crack in fire-arms, the force of the powder being exerted more upon the circumference than the length of the barrel. The flaw is much more frequent than the chink, the latter scarcely ever occurring but in plain barrels formed out of a single plate of iron, and then only when the metal is deficient in quality. When flaws happen on the outside, they are of little consequence; but in the inside they are apt to lodge moisture and foulness, which corrode the iron, and thus the cavity enlarges continually till the piece bursts. This accident, however, may arise from many other causes besides the defect of the barrel. The best pieces will burst when the ball is not sufficiently rammed home, so that a space is left between it and the powder. A very small windage or passage from the inflamed powder between the sides of the barrel and the ball, will be sufficient to prevent the accident; but if the ball has been forcibly driven down with an iron ramrod, so as to fill up the cavity of the barrel very exactly, the piece will almost certainly burst, if only a very small space be left between it and the powder; and the greater the space is, the more certainly does the event take place. Of this Mr. Robins gives a remarkable instance, accounting at the same time for the phenomenon:—‘A moderate charge of powder,’ says he, ‘when it has extended itself through the vacant space, and reaches the ball, will, by the velocity each part has acquired, accumulate itself behind the ball, and will thereby be condensed prodigiously; whence, if the barrel be not of an extraordinary strength in that part, it must infallibly burst. The truth of this I have experienced in a very good Tower musket forged of very tough iron; for, charging it with twelve pennyweights of powder, and placing the ball loosely sixteen inches from the breech, on the firing of it, the part of the barrel just behind the bullet was swelled out to double its diameter, like a blown bladder, and two large pieces, of two inches in length, were burst out of it.’ A piece will frequently burst from having its mouth stopped up with earth or snow; which sometimes happens to sportsmen, when, in leaping a ditch, they have assisted themselves with their fowling-piece, putting the mouth of it to the ground. And a musket will certainly burst, if it be fired with the muzzle immersed only a very little way in water. It will also burst from an overcharge; but, when it bursts in other circumstances, it is to be attributed to a defect in the workmanship, or in the iron. These defects are principally an imperfection in the welding, a deep flaw having taken place, or an inequality in the bore; which last is the most common of any, especially in low-priced barrels. The reason of a barrel’s bursting from an inequality in the bore is, that the elastic fluid, set loose by the inflammation of the powder, and endeavouring to expand itself in every direction, being repelled by the stronger parts, acts with additional force against the weaker, and bursts through them, which it would not have done had the sides been equally thick throughout. With regard to defects arising from the bad quality of the iron, as the choice of the materials depends entirely on the gunsmith, the

only way to be assured of having a barrel made of proper metal is to purchase it from an artist of reputation, and to give a liberal price. The recoil of a piece becomes an object of importance only when it is very great; for every piece recoils in some degree when it is discharged. The most frequent cause of an excessive recoil is an inequality in the bore of the barrel; and by this it will be occasioned even when the inequality is too small to be perceived by the eye. The explanation of this upon mechanical principles indeed is not easy: for, as it is an invariable law that action and reaction are equal, we should suppose that every time a piece is discharged it should recoil with the whole difference between the velocity of the bullet and that of the inflamed powder. The cause to which too great a recoil in muskets has been usually attributed, is the placing of the touch-hole at some distance from the breech plug; so that the powder is fired about the middle, or towards its fore part, rather than at its base. To avoid this, some artists form a groove or channel in the breech plug as deep as the second or third turn of the screw: the touch-hole opening into this channel, and thus firing the powder at its very lowest part. It appears, however, from a number of experiments made upon this subject by M. le Clerc, gunsmith to the late king of France, that it made very little difference with regard to the recoil, whether the touch-hole was close to the breech or an inch distant from it. The only circumstance to be attended to with respect to its situation therefore is, that it be not quite close to the breech-plug; as in such a case it is found to be more apt to be choked up than when placed about a quarter of an inch from it.

The only other circumstance to be determined with regard to musket-barrels is their proper *length*. Formerly it was supposed that the longer they were made, the greater would be the distance to which they carried the shot, and that without any limitation. This opinion continued to prevail till about sixty years ago, when it was first proposed as a doubt whether long barrels carried farther than short ones. With regard to cannon, indeed, it had long before this time been known that they might be made too long. Balthazar Killar, a celebrated cannon-founder under Louis XIV., when asked by Mons. Suriry de St. Remy, why the culverin of Nancy, which is twenty-two feet long, did not carry a ball equally far with a shorter piece? he replied, that 'the powder, when inflamed, ought to quit the cavity of the piece in a certain time, in order to exert its whole force upon the bullet: by a longer stay, part of the force is lost; and the same cause may produce an inequality in the shots, by giving a variation to the bullet, so as to destroy its rectilinear force, and throw it to one side or other of the mark.' Mr. Robins, whose skill in gunnery is well known, says, 'If a musket barrel, of the common length and bore, be fired with a leaden bullet and half its weight of powder, and if the same barrel be afterwards shortened one-half and fired with the same charge, the velocity of the bullet in this shortened barrel will be about one-sixth less than it was when the barrel was entire: and if, instead of shortening the barrel,

it be increased to twice its usual length, when it will be near eight feet long, the velocity of the bullet will not hereby be augmented more than one-eighth part. The greater the length of the barrel is in proportion to the diameter of the bullet, and the smaller the quantity of powder, the more inconsiderable will these alterations of velocity be.' The advantages, therefore, gained by long barrels are by no means equivalent to the disadvantages arising from the weight and encumbrance of them; and from many experiments it is now proved, that one may choose any length he pleases, without any sensible detriment to the range of his piece. The most approved lengths are from thirty-two to thirty-eight inches. An opinion has prevailed among sportsmen, that by some unknown manœuvre the gunsmith is able to make a piece, loaded with small shot, throw the contents so close together, that even at the distance of forty or fifty paces the whole will be confined within the breadth of a hat. From such experiments as have been made on this subject, however, it appears, that the closeness or wideness with which a piece throws its shot is liable to innumerable variations, from causes which no skill in the gunsmith can possibly reach. So variable are these, that there is no possibility of making the same piece throw its shot equally close twice successively. In general, however, the closer the wadding is, the better disposed the shot seems to be to fall within a small compass. The closeness of the shot therefore would seem to depend on preventing the flame of the powder from insinuating itself among its particles: whence those who shoot for a wager at a mark with small shot, put in the shot by small quantities at a time, ramming down a little tow or thin paper over each; so as to fill the interstices of the grains, and thus prevent the flame from getting in amongst the grains and scattering them.

Some pieces are composed of two or more barrels joined together; in which case the thickness of each of the barrels is somewhat less than in single barrelled pieces. After being properly dressed, each of them is filed flat on the side where they are to join each other, so that they fit more closely together. Two corresponding notches are then made at the muzzle and breech of each barrel; and into these are fitted two small pieces of iron to hold them more strongly together. Being then united by tinning the contiguous parts, a triangular piece of iron called the rib is fastened on in like manner, running the whole length on the upper side; which serves to hold them more strongly together. After this they are to be polished and colored in the manner described for single barrels: great care should be taken, that the barrels joined in this manner should be quite equal in strength, and quite upright, or of an equal thickness throughout. If any inequality takes place in the strength of the barrels, the weaker will be warped by the action of the stronger; and the warping from this cause has sometimes been so considerable as to render one of the barrels useless. To bring every part of the circumference of each barrel to as equal strength as possible, so that no part may be strained by the explosion, that side

where they touch must be so reduced, that the partition between the two calibres may be no thicker than either barrel was at the same place before it was filed to join in this manner. Formerly the double-barrelled pieces were made with one barrel lying over the other, each barrel having a separate pan, hammer and hammer-spring, but only one cock for both. The barrels were therefore made to turn round at the place where the breeches joined with the stock; so that as soon as one was fired off, the other could be brought into its place by pressing a spring moved by the guard with the right hand, while with the left the barrels were turned upon their common axis; and as soon as the charged barrel was thus brought into its proper situation, the spring descended into a notch and kept it firm. But this method was found to be too complicated, though upon the same plan three and four barrels were sometimes mounted upon one stock; but these pieces were intolerably heavy, and have no real superiority over the double-barrelled pieces which do not turn round, and which of consequence are now only made use of. In forging barrels of all kinds, it is of importance to have them made at first as near as possible to the weight intended, so that very little be taken away by the boring and filing: for as the outer surface, by having undergone the action of the hammer, is rendered the most compact and pure, we should remove as little of it as possible; and the same holds with the inside.

A **MUSKETOON** is a kind of short thick musket, whose bore is the thirty-eighth part of its length; it carries five ounces of iron, or seven and a half of lead, with an equal quantity of powder. This is the shortest kind of blunderbusses. It is of the same length with the carbine.

MUSKMELON, *n. s.* Musk and melon. A fragrant melon.

The way of maturation of tobacco must be from the heat of the earth or sun; we see some leading of this in *muskmelons*, which are sown upon a hot bed dugged below, upon a bank turned upon the south sun. *Bacon.*

MUSK-RAT. See **CASTOR**, and **MUS**.

MUSKROSE, *n. s.* Musk and rose. A rose so called from its peculiar fragrance.

Thyrsis, whose artful strains have oft delayed
The huddling brook to hear his madrigal,

And sweetened every *muskrose* of the dale. *Milton.*

The *muskrose* will, if a lusty plant, bear flowers in Autumn without cutting. *Boyle.*

MUS'LIN, *n. s.* Fr. *mousselin*; Sp. *musolino*. Because first imported from Mousol. A fine stuff made of cotton.

By the use of certain attire, made of cambrick or *muslin*, upon her head, she attained to such an evil art in the motion of her eyes. *Tatler.*

In half-whipt *muslin* needles useless lie,
And shuttle-cocks across the counter fly. *Gay.*

MUSLIN bears a downy knot on its surface. There are several sorts of muslins brought from the East Indies, and more particularly from Bengal; such as doreas, betelles, mulmuls, tanjees, &c. Muslin is now manufactured in Britain, and brought to very great perfection. See **COTTON**, and **WEAVING**.

MUSONIUS (Caius, Rufus), a Stoic philosopher of the second century, who was banished

into the island of Gyare, under the reign of Nero, for criticising the manners of that prince; but was recalled by Vespasian. He was the friend of Apollonius Tyanæus; and the letters that passed between them are still extant.

MUSS, *n. s.* A cant word for a scramble.

When I cried ho!

Like boys unto a *mus*, kings would start forth,
And cry, Your will!

Shakspeare. Antony and Cleopatra.

MUSSAFURPORE, or **MUJAFAPORE**, a town of Hindostan, in the province of Bahar, and district of Hajypore, is situated on the south bank of the Little Gunduck River, and was formerly the residence of the East India Company's commercial agents. Near this place a battle was fought in the year 1760, between Cossim Aly Khan's forces and the British, in which the latter were successful. Long. 85° 25' E., lat. 26° 10' N.

MUSSELBURGH, a sea-port town of Scotland, in Mid Lothian, in the parish of Inveresk, at the mouth of the Esk, which separates it from Fisher-row; but the towns are connected by a bridge, as well as by their government. It is an ancient burgh royal, having a charter dated December 11th, 1552; but it had one so early as 1340, granted by the earl of Marr, for the attention of the inhabitants to the great Randolph earl of Murray, who died in it, in 1322. It anciently belonged to the abbacy of Dunfermline, but was granted by James VI. to the duke of Lauderdale, and purchased from this family, in 1709, by the duchess of Buccleugh. It is governed by two bailies and a treasurer, elected annually, and fifteen councillors; of whom ten are elected from Musselburgh, and eight from Fisher-row. Two councillors go out, and two new ones are chosen annually. It has seven incorporations. Its last charter is dated 1670. Its revenue is above £1500 a year. It has a market on Friday, and a fair the second Tuesday in August. It lies four miles north of Dalkeith, and six east of Edinburgh.

MUSSENDON, a cape of Arabia, one of the boundaries of the Persian Gulf. It is the termination of a series of mountains inhabited by a tribe descended from the Arabs and Portuguese. A number of small rocks or islands, named the Quoins, lie about ten miles to the north of the Cape.

MUSSULMAN, *n. s.* Arab. *mosleman*, of Arab. *islam*, salvation. A Mahometan believer.

Thus says the prophet of the Turk,

Good *musulman*, abstain from pork,

There is a part in every swine

No friend or follower of mine

May taste, whatever his inclination,

On pain of excommunication. *Cowper.*

MUSULMAN, is a title by which the Mahometans distinguish themselves; signifying, in the Turkish language, 'true believer, or orthodox.' See **MAHOMETANISM**. In Arabic the word is written Moslem, or Mosleman. The appellation was first given to the Saracens, as is observed by Leunclavius.—There are two sects of Mussulmans, very averse to each other; the one called Sunnites, and the other Shiites.—The Sunnites follow the interpretation of the Alcoran given by

Omar; the Shiites are the followers of Ali. The subjects of the king of Persia are Shiites, and those of the grand signior, Sonnites. See *AL-CORAN*, and *SONNA*. Some authors say, that the word Mussulman signifies saved, that is, predestinated; and that the Mahometans give themselves the appellation, as believing they are all predestinated to salvation.—Martinius is more particular as to the origin of the name; which he derives from the Arabic *مسلم*, musalein, 'saved, snatched out of danger;' the Mahometans, he observes, establishing their religion by fire and sword, massacred all those who would not embrace it, and granted life to all that did, calling them Mussulmans, q. d. erepti è periculo; whence the word, in course of time, became the distinguishing title of all those of that sect, who have affixed to it the signification of true believers.

MUST, *v. imp.* Sax. *moæt*; Belg. and Teut. *mussen*. To be obliged; to be by compulsion or necessity.

Must I needs bring thy son unto the land from whence thou camest? *Gen. xxiv. 5.*

Do you confess the bond?

—I do.

—Then *must* the Jew be merciful.

—On what compulsion *must* I? tell me that.

Shakspeare.

Fade, flowers, fade, nature will have it so,
'Tis but what we *must* in our Autumn do.

Waller.

Because the same self-existent being necessarily is what he is, 'tis evident that what he may be, or hath the power of being, he *must* be. *Grew.*

Every father and brother of the convent has a voice in the election, which *must* be confirmed by the pope. *Addison.*

What say you—a pasty, it shall, and it *must*;
And my wife, little Kitty, is famous for crust.

Goldsmith.

Full many a pang, and many a throe,

Keen recollection's direful train,

Must ring my soul, ere Phœbus, low,

Shall kiss the distant, western main. *Burns.*

My sister, and my sister's child,

Myself, and children three,

Will fill the chaise; so you *must* ride

On horseback after we. *Cowper.*

MUST, *v. a. & v. n.* } Belg. *mos*; Wel. *mus*

MUS'TINESS, *n. s.* } (mould); Fr. *morsir*; Ital.

MUS'TY, *adj.* } *mucido*; Lat. *mucidus*.

To make or grow mouldy: mustiness is, mouldiness; foulness arising from damp: musty, spoiled by damp; fetid; vapid with fetidness; hence, dull; heavy.

Was't thou fain, poor father,

To hovel thee with swine and rogues forlorn,

In short and *musty* straw. *Shakspeare. King Lear.*

Pistachoes, so they be good and not *musty*, made into a milk, are an excellent nourishment. *Bacon.*

Let those that go by water to Gravesend prefer lying upon the boards, than on *musty* infectious straw. *Harvey.*

Keep them dry and free from *mustiness*.

Evelyn's Kalendar.

Others are made of stone and lime, but they are subject to give and be moist, which will *must* corn. *Mortimer.*

Nantippe, being married to a bookish man who has no knowledge of the world, is forced to take his

affairs into her own hands, and to spirit him up now and then, that he may not grow *musty* and unfit for conversation. *Addison's Spectator.*

Let not, like Nævius, every error pass;

The *musty* wine, foul cloth, or greasy glass. *Pope.*

MUST, *n. s.* Sax. *mvæt*; Fr. *mout*, *moust*; Lat. *mustum*. New wine; new wort.

If in the *must* of wine, or wort of beer, before it be tanned, the burrage stay a small time, and be changed, it makes a sovereign drink for melancholy. *Bacon's Natural History.*

As a swarm of flies in vintage time,
About the wine-press where sweet *must* is poured,
Beat off, returns as oft with humming sound. *Milton.*

The wine itself was suiting to the rest,
Still working in the *must*, and lately pressed *Dryden.*

A frugal man that with sufficient *must*
His casks replenished yearly; he no more
Desired, nor wanted. *Philips.*
Liquors, in the act of fermentation, as *must* and new ale, produce spasms in the stomach. *Arbuthnot on Ailments.*

MUST is a liquid of a sweet taste expressed from grapes fully ripe: or the liquor pressed from the fruit before it has worked or fermented. See *WINE*. Dr. Thompson says, it is composed of five ingredients, viz. water, sugar, jelly, extract, and tartareous acid, partly saturated with potass. The quantity of sugar is very considerable; it may be obtained in crystals by evaporating *must* to the consistence of syrup, separating the tartar which precipitates during the evaporation, and the setting the *must* aside for some months. The crystals of sugar are gradually formed.

MUST OF RHENISH WINE. This is a liquor that is found extremely to affect the brain; for not having passed the natural effervescence, which it would have been subject to in the making of wine, its salts are locked up, till, the heat of the stomach setting them to work, they raise their effervescence there, and send up abundance of subtle vapors to the brain. The Rhenish *must* is of two kinds, being made either with or without boiling. That made without boiling is only put up so close in the vessel that it cannot work; this is called *stumm wine*. That by boiling is thus prepared: they take strong vessels not quite filled, and, putting them into a cellar, they make a fire, mild at first, but increased by degrees, and afterwards they gradually lessen it again, that the boiling may cease of itself. This operation is finished in thirty-six or forty hours, according to the size of the vessel; and the wine-boilers, instead of common candles, which would melt by the heat, use thin pieces of split beechwood. These also serve for a double purpose, not only lighting them, but giving them notice of the boiling being enough; before that time, the quantity of vapors thrown up make them burn dim; but, as soon as it is finished, the vapors ascend in less quantity, and the light burns brisk and clear. About seven or eight days after this boiling, the *must* begins to work, and after this working it is called wine. They have also another kind of Rhenish *must*, which is thus prepared. they boil the liquor to half the quantity,

and put into it the medicinal ingredients they are most fond of; such as orange-peel, elecampane root, and juniper berries, or the like; being thus medicated, the whole works much more slowly than it otherwise would. If the boiled must, by too violent effervescence, cast out its lees, it will become vapid and dead, unless this separation is stopped by some fatty substance, such as fresh butter or the like: they put this in upon a vine leaf, or else apply it hard to the mouth of the vessel.

MUSTA'CHES, or } Fr. *mustaches*; Span.
MUSTA'CHOS, n. s. } *mustacho*. Whiskers;
hair on the upper lip.

This was the manner of the Spaniards, to cut off their beards, save only their *mustaches*, which they wear long. *Spenser*.

MUSTAPHABAD, a considerable town of Hindostan, in the province of Delhi. It is surrounded by a mud wall, with towers and a ditch, and is subject to the British. Long. 76° 47' E., lat. 30° 20' N. N. B. Mustafa, one of the names of Mahomet, is also that of a great number of places in the east.

MUSTAPHANAGUR. See CONDAPILLY.

MUSTARD, n. s. Welsh *mustard*; Fr. *moustard*; Ital. *mostardo*, as some suggest, from Lat. *mustum ardens*. A plant. See SINAPIS.

The pancakes were naught, and the *mustard* was good. *Shakspeare*.

Sauce like himself offensive to its foes,
The roguish *mustard*, dangerous to the nose. *King*.

Mustard, in great quantities, would quickly bring the blood into an alkaline state, and destroy the animal. *Arbutnot*.

'Tis your's to shake the soul,

With thunder rumbling from the *mustard* bowl. *Pope*.

Stick your candle in a bottle, a coffee cup, or a *mustard* pot. *Swift*.

MUSTARD, MITHRIDATE. See THLAPSI.

MUSTARD SEED is one of the strongest of the pungent, stimulating, diuretic medicines, that operate without exciting much heat. It is sometimes taken unbruised, to the quantity of a spoonful at a time, in paralytic, cachectic, and serous disorders. It is applied also as an external stimulant, to numbened and paralytic limbs; to parts affected with fixed rheumatic pain; and to the soles of the feet, in the low stage of acute diseases, for raising the pulse: in this intention, a mixture of equal parts of the powdered seeds and crumbs of bread, with the addition sometimes of a little bruised garlic, is made into a cataplasm, with a sufficient quantity of vinegar. Mustard seed yields, upon expression, a considerable quantity of oil, which is by some recommended externally against rheumatisms and palsies, though it has nothing of that quality by which the seeds themselves prove useful in those disorders; the oil being mild and insipid as that of olives, and the pungency of the seed remaining entire in the cake left after expression; nor is any considerable part of the pungent matter extracted by rectified spirit. The bruised seeds give out readily to water nearly the whole of their active matter: added to boiled milk they curdle it, and communicate their pungency to the whey.

The powder of mustard seed may be made into the consistence of a loch with warm water, in which a little sea-salt has been dissolved. Of this a common spoonful, sometimes two, diluted with tepid water, are given on an empty stomach; it operates as well as an emetic, and proves an excellent remedy in most nervous disorders. Med. Ess. Edinb. vol. ii. art. 19, p. 303, note.

MUSTELA, a genus of quadrupeds of the order of ferae. There are six cutting teeth in each jaw; those of the upper jaw erect, sharp-pointed, and distinct; of the lower jaw, blunter, huddled together, and two placed within the line of the rest: the tongue is smooth. In many circumstances (says Mr. Kerr), the otters and weasels agree; the body is very long, and of an equal thickness; the legs are short, with smooth shining hair; the claws are not retractile; they dig burrows, in which they reside; and they go about in search of prey in the night: but the otters live almost constantly in the water, swimming on the surface and below it, and subsist chiefly on fish; they do not climb trees, neither do they leap with a crooked body and stretched out tail like the weasels; the head is larger and thicker; the tongue covered with soft papillae; they have five grinders on each side of each jaw; the weasels have four or five above, and five or six below on each side. From all these circumstances, and the peculiar conformation of their feet, it were proper to separate them into distinct genera; but as they are placed in the same genus by Linné, they are here only divided into two subordinate sections: viz. 'lutræ, otters, having the toes of the feet webbed; and mustelæ, weasels, having the toes unconnected.' There are many species.

M. *afra*, the vansire, or Madagascar weasel of Pennant, is brown above, pale yellow below, and the tip of the tail is blackish; it is fourteen inches long from nose to rump, the tail ten; in the upper jaw are twelve grinders and ten in the lower. They inhabit Madagascar, and the interior parts of Africa.

M. *barbara*, the tayra, or Guiana weasel of Pennant, is black, with a three lobed spot on the neck; is the size of a martin, and has a strong scent of musk; the female has four teats. They inhabit Guiana and Brasil.

M. *Canadensis*, the pikan, in form resembles the pine martin; the body is tawny or bay, with a white spot on the breast; is nearly two feet long; the tail above ten inches, and black as well as the legs. It has long and strong whiskers, and inhabits North America.

M. *erminea*, the ermine, has the tail tipped with black. This species inhabits the north of Europe, Asia, and America, and as far as the north parts of Persia and China; living in heaps of stones on the banks of rivers, in the hollows of trees, and in forests, especially of beech, preying on squirrels and lemmings. In manners and food they resemble the common weasel, but do not frequent houses, haunting chiefly woods and hedges, especially such as border on brooks and rivulets: In general appearance they come very near the martin, but are shorter in the body, being scarcely ten inches long from nose to rump,

and the tail about five inches and a half; the hair is likewise shorter and less shining. In the northern regions, the fur of the ermine becomes entirely white during winter, except the outer half of the tail, which remains black. The skins sell in Siberia from £2 to £3 sterling per 100; but were anciently in much greater request than now. In summer, the upper part of the body is of a pale tawny brown color; the edges of the ears and ends of the toes are yellowish-white; the throat, breast, and belly are white; in winter, in the temperate regions, it is sometimes mottled with brown and white; but in severe winters becomes entirely white; the farther north, and the more rigorous the climate, the purer white; those of Britain generally retain a yellowish tinge. In Persia and other southern parts it is brown the whole year. In Siberia they burrow in the fields, and are taken in traps baited with flesh. In Norway they are either shot with blunt arrows, or taken in traps made of two flat stones, one being propped up with a stick, to which is fastened a baited string, which when the animal nibbles, the stone falls down and crushes them to death. The Laplanders take them in the same manner, only, instead of stones, they use two logs of wood.

M. foina, the common martin, is of a blackish chestnut color, with the throat and breast white: the head and body measure eighteen inches, the tail ten. Martins inhabit Britain, Germany, France, and most parts of the south of Europe, and even the warmer parts of Russia. They live in woods, and go about during the night in quest of prey. They are most elegant lively animals. Their movements are all exceedingly nimble; they rather bound and leap than walk. They climb rough walls with ease and alacrity; enter pigeon or hen houses, eat the eggs, fowls, &c., and the females often kill great numbers, and transport them to their young. They likewise seize mice, rats, moles, and birds in their nests. Count Buffon kept one of these animals for a considerable time, having tamed him to a certain degree, but he never formed any attachment, and continued always so wild that it was necessary to chain him. He made war against the rats, and attacked the poultry whenever they came in his way. He often got loose, though chained by the middle of the body. At first he went to no great distance, and returned in a few hours; but without discovering any symptoms of joy or affection to any particular person. He, however, called for victuals like a cat or a dog. Afterwards he made longer excursions; and at last walked off altogether. He was then about a year and a half old. He ate every thing presented to him, except herbs; was fond of honey, and preferred hemp-seed to every other grain. He drank very often; sometimes slept two days successively, and at other times none for two or three days. Before sleeping, he folded himself in a round form, and covered his head with his tail. While awake, his motions were so violent, so perpetual, and so incommodious, that it was necessary to chain him, to prevent him from breaking every thing. The court adds that he has had in his possession several martins of a more advanced age, which had been taken in

nets; but they continued to be totally savage, bit all who attempted to touch them, and would eat nothing but raw flesh. The character of this animal is differently given by Mr. Pennant; who says, 'it is very good natured, sportive, and capable of being tamed.' The younger females bring three or four at a birth; when older they produce six or seven. They breed in hollows of trees; and are often in winter found in magpies' nests. The skin and excrements have a musky smell.

M. furo, the ferret, has red and fiery eyes; the color of the whole body is a very pale yellow; the length from nose to tail is about fourteen inches, the tail five. In their wild state they inhabit Africa; whence they were brought into Spain, to free that country from rabbits with which it was over run; and from Spain the rest of Europe has been supplied. They cannot bear cold, nor subsist even in France unless in a domestic state. They have not the same capacity of finding subsistence as other wild animals, but must be nourished within doors, and cannot exist in the fields; for those which are lost in the burrows of rabbits perish during winter. Like other domestic animals, they vary in color. The female ferret is less than the male, and, when in season, is so extremely ardent that she dies if her desires are not gratified. Ferrets are brought up in casks or boxes, where they are furnished with beds of hemp or flax. They sleep very much. When they awake they search eagerly for food; and brawn, bread, milk, &c., are commonly given them. They produce twice a-year; and the female goes six weeks with young. Some of them devour their young as they are brought forth, instantly come again in season, and have three litters, which generally consist of five or six, and sometimes of seven, eight, or nine. They are used for hunting rabbits; and, as in this country they are apt to degenerate, warreners cross the breed, by an intercourse between a female ferret and a male polecat, by leaving the former, when in season, near the haunts of the latter. The produce is of a much darker color than the ferret, having a great resemblance to the polecat. This animal is naturally a mortal enemy to the rabbit. When a dead rabbit is for the first time presented to a young ferret, he flies upon it, and bites it with fury; but if it be alive, he seizes it by the throat or the nose, and sucks its blood. When let into the burrows of rabbits, he is muzzled, that he may not kill them in their holes, but only oblige them to come out, to be caught in the nets. If the ferret is let in without a muzzle, he is in danger of being lost; for, after sucking the blood of the rabbit, he falls asleep; and even smoking the hole is not a certain method of recalling him; because the holes have often several entries which communicate with each other, and the ferret retires into one of these when incommoded by the smoke. Ferrets are also used for catching birds in the holes of walls or old trees. The ferret, though easily tamed, and rendered docile, is exceedingly irascible; his odor is always disagreeable; but, when irritated, it becomes more offensive. His eyes are lively, and his aspect is inflammatory; all his movements are

nimble; and he is at the same time so vigorous that he can easily master a rabbit, though four times larger than himself.

M. galera, the tayra of Buffon, or Guinea weasel of Pennant, is of an uniform dusky color, the fur very rough. It is about the size of a rabbit, and is shaped like a rat. It inhabits Guinea; where it burrows in the ground by means of its fore feet, which are strong, and formed for digging. It is very common about the negro villages, and is exceedingly fierce and destructive to poultry.

M. Guianensis, the Guiana, or South American martin, is of a dark brown color, with a white forehead, and a long narrow stripe along the side of the neck. The body and head are nearly two feet long, and the tail is only about five inches. It inhabits Guiana.

M. lutra Brasiliensis, the Brazilian otter, is black, with a yellow spot below the chin; the tail is flat, naked, and reaches only to the feet. It is about the size of a middling dog, but weighs from 40 lbs. to 100 lbs; the head and teeth resemble those of a cat; the eyes are small, round, and black; the feet have five toes each, with sharp claws. They inhabit Brasil, Guiana, and the rivers of South America; live in societies on fish, crabs, &c., and are very fierce, but may be tamed when young.

M. lutra Guianensis, the small Guiana otter, with the hind feet webbed, the toes of the fore feet unconnected, and a long taper naked nail, inhabits Cayenne, and probably other parts of South America. It is only about seven inches long from the nose to the rump; the tail is near seven; the upper parts of the head and body are marked with large brownish-black spots, exactly corresponding on both sides, and the intervals are of a yellowish-gray color; all the under parts of the body and head, and the fore parts of the fore legs, are white; there is a white spot over each eye; the ears are large and round; and the mouth is garnished with long whiskers. Buffon says, there are three varieties of otters in Cayenne; 1st, Black, which weighs from 40 to 50 lbs. French. 2d, Yellowish, weighing 20 or 25 lbs. 3d, The small grayish kind above described, which only weighs 3 or 4 lbs. The other two are not described, but they appear in numerous troops, are very fierce and dangerous, and defend themselves against dogs, biting very cruelly: they litter in holes which they dig on the banks of rivers; and are often tamed and brought up in houses.

M. lutra lutreola, the lesser otter, has very broad hairy feet, and a white mouth; and seldom exceeds a foot in length. The body is of a tawny and dusky color mixed together; the fur having two series of hairs, of which the short are yellowish and the long black. These animals inhabit Poland, Finland, Russia, and Siberia; frequent marshy places, and prey on fish and frogs. They are caught with dogs and traps, and are excessively fetid; but the fur is very valuable, being esteemed next in beauty to that of the sable.

M. lutris, the sea otter, having hairy feet and a hairy tail. From nose to tail it is about three feet long, and the tail is about thirteen

inches; the body and the limbs are black, except the fore part of the head, which is white or gray; the largest individual weighs from 70 to 80 lbs.; the fur is very thick, long, black, and glossy, sometimes varying to silvery, with a soft down beneath. The sea otter inhabits the north-west coasts of America, and Eastern Asia, and the intermediate islands. It lives mostly in the sea, and swims with great facility; frequenting shallows which abound in sea-weeds, and feeding on lobsters, fish, sepia, or cuttle-fish, and shell-fish. It is a harmless animal; very affectionate to its young, insomuch that it will pine to death at the loss of them, and die on the very spot where they have been taken from it. Before the young can swim, the dams carry them in their paws, lying in the water on their backs: they swim often on their back, their sides, and even in a perpendicular posture; are very sportive; embrace, and kiss each other: they breed but once a-year, and have but one young at a time, suckle it for a year, and bring it on shore. They are dull-sighted, but quick scented; and run very swiftly on land. They are hunted for their skins, which are of great value; being sold to the Chinese for seventy or eighty rubles a-piece: each skin weighs $3\frac{1}{2}$ lbs. The young are reckoned very delicate meat, scarcely to be distinguished from a sucking lamb. Their cry is nearly similar to that of a young dog, sometimes interrupted by another cry similar to that of the saki, or fox-tailed monkey. They may be nourished with the flour of manioc diluted in water.

M. lutra piscatoria, the common otter, has naked feet, and the tail is about half the length of the body. It is in general about two feet long, from the tip of the nose to the base of the tail. The fur is of a deep brown color, with two small white spots on each side of the nose, and one beneath the chin. This animal inhabits Europe, North America, and Asia as far as Persia. It frequents rivers, lakes, and fish ponds; and preys on fish, frogs, and fresh water crustaceous animals, being exceedingly destructive to fish ponds. They procreate in February, and the female brings forth three or four young ones in May; the male calls the female by a soft murmuring noise. The otter shows great sagacity in forming its habitation: it burrows under ground on the banks of a river or lake; it always makes the entrance of its hole under water; working upwards to the surface of the earth, and forming, before it reaches the top, several holes, that, in case of high floods, it may have a retreat: for, though amphibious, no animal loves more to lie dry: it makes a minute orifice for the admission of air; and, the more effectually to conceal its retreat, makes even this air-hole in some thick bush. The otter is capable of being tamed: he will follow his master like a dog, and even fish for him, and return with his prey. Though he does not cast his hair, his skin is browner, and sells dearer in winter than in summer, and makes a very fine fur. His flesh has a very disagreeable fishy taste. His retreats exhalate a noxious odor from the remains of putrid fishes; and his own body has a bad smell. The dogs chase the otter spontaneously, and easily catch him when at a distance from the water or from

his hole. But, when seized, he defends himself, bites the dogs cruelly, sometimes with such force as to break their leg-bones, and never quits his hold but with life. The beavers, however, pursue the otters, and will not allow them to live on the same banks.

M. martes, the pine martin, has the body of a dark or blackish chestnut color, the breast and throat yellow. They inhabit the north of Europe, Asia, and America; are more rarely found in Britain, France, Germany, and Hungary; and as far as Tonquin in China. They live in large woods and forests, keeping in the day time the hollows of trees, occupying squirrels' nests, especially for their young, and go about only by night. They prey on squirrels, mice, rats, and small birds; eat berries, ripe fruit, and honey; and in winter go in quest of pigeons and poultry. They procreate in February; and the female, after nine months, brings forth seven or eight young ones. The head of this species is shorter, and the legs are somewhat longer, than those of the common martin; but the fur is far superior in fineness, and is a great article in commerce: those about Mount Caucasus, with an orange throat, are esteemed by furriers.

M. melina, the yellow weasel, has the back and belly of a pale cinereous yellow; the face, crown, legs, and tail black. It is eighteen inches long from nose to rump; the tail is also eighteen inches and has long hair; the head is flat, ears rounded, nose blunt, eyes dusky colored, cheeks and chin white, and the throat a rich yellow.

M. putoria, the pole-cat, is of a dirty-yellow color, with white muzzle and ears. He inhabits most parts of Europe, and the temperate climates of Asiatic Russia; and has a great resemblance to the martin in temperament, manners, disposition and figure. He approaches houses, mounts the roofs, takes up his abode in hay-lofts, barns, and unfrequented places, from which he issues at night only in quest of prey. He burrows under ground, forming a shallow retreat about two yards long, terminating under the roots of some large tree. He makes greater havoc among fowls than the martin, cutting off their heads, and carrying them off one by one to his magazine. If he cannot carry them off entire, on account of the smallness of the entry to his hole, he eats the brains and takes only the heads along with him. He is likewise very fond of honey, attacks the hives in winter, and forces the bees to abandon them. The females come in season in the spring, and bring forth three, four, or five. In the deserts of Asiatic Russia, polecats are sometimes found, especially in winter, of a white color; they are also found beyond lake Baikal with white or yellowish rumps, bounded with black. They are exceedingly fetid, like the martin and sable, giving out from the anus a most offensive vapor when frightened. The male is mostly of a yellowish tinge, having a whitish muzzle, while that of the female is a yellowish dirty white.

M. Sarmatica, the Sarmatian weasel, is of a brownish-black color, spotted and striped irregularly with obscure yellow, and is about fourteen inches long, exclusive of the tail, which is six

inches. It resembles the polecat, but has a narrower head, a more lengthened body, a longer tail, and shorter hair, except on the feet and tail. They inhabit Poland, especially Volbrynja; the deserts of Russia between the Volga and Tanais; the mountains of Caucasus, Georgia, and Bukharia. They are very voracious, and prey on marmots, rats, mice, jerboas, birds, and other small animals. They procreate in spring, and after eight weeks the female, which has eight teats, brings forth from four to eight young ones. They live in holes, mostly in those which have been made by other animals, and are exceedingly fetid.

M. Sibirica, the Siberian weasel, called kolonok by the Russians, is of a deep yellow; has the soles of the feet very hairy; is twelve inches long, and the tail six; the face is black, and the fur long and loose. They reside in Siberia, in forests, between the Altaic Mountains, and the Amur and lake Baikal.

M. vulgaris, the common weasel, fulimart, fitchet, or whitret, has the upper parts of the body of a pale reddish-brown, the lower white. This species inhabits the temperate and northern parts of Europe, Asia, and America, and as far to the southward as the northern provinces of Persia, and are found even in Barbary. In the northern parts of Russia and Sweden, particularly in West Bothnia, they become white in winter like the ermine; but are easily distinguishable, being a great deal smaller; the body and head not exceeding seven inches long, and the tail two and a half. They are very destructive to birds, poultry, and young rabbits; and are great devourers of eggs. They do not eat their prey on the place, but, after killing it by one bite near the head, carry it off to their young. They prey also on moles, and are sometimes caught in mole traps. They are remarkably active, and run up the side of walls with such ease, that scarce any place is secure from them, the body being so small, that almost any hole is pervious to it. This species frequent out-houses, barns, and granaries, which they clear from mice and rats, being much greater enemies to them than even cats. But in summer they retire from houses, especially into low grounds, about mills, along rivulets, concealing themselves among brush-wood, to surprise birds; and often take up their abode in old willows, where the female brings forth her young. She prepares for them a bed of straw, leaves, and other herbage, and litters in spring, bringing from six to eight or more at a time. The young are born blind, but soon acquire sight and strength. Their motion consists of unequal and precipitant leaps; and, when they want to mount a tree or seize a bird, they make a sudden bound, by which they are at once elevated several feet high. They have a disagreeable odor, which is stronger in summer than in winter; and, when pursued or irritated, their smell is felt at a considerable distance. They move always with caution and silence, and never cry but when hurt. Their cry is sharp, rough, and very expressive of resentment. As their own odor is offensive, they seem not to be sensible of a bad smell in other bodies. *M. Buffon* informs us, that a peasant in his neigh-

hourhood took three new-littered weasels out of the carcase of a wolf that had been hung up on a tree by the hind feet. The wolf was almost entirely putrefied, and the female weasel had made a nest of leaves and herbage for her young in the thorax of this putrid carcase. The weasel may be perfectly tamed, and rendered as caressing and frolicsome as a dog or squirrel. The method of taming them is to stroke them often and gently over the back; and to threaten and even to beat them when they bite. In the domestic state their odor is never offensive but when irritated. They are fed with milk, boiled flesh, and water.

M. zibellina, the sable, has a great resemblance to the martin, from which it differs in having a longer head, longer ears, surrounded by a yellow margin, longer and more elegant fur, the feet more thickly clothed with hair, and the tail shorter than the hind legs when extended, while that of the martin is much longer. The color of the hair is cinereous at the bottom, and black at the tips; the chin is cinereous, sometimes white, yellowish, or spotted; the mouth is garnished with long whiskers; and the feet are large with white claws. It inhabits the north parts of Asia and America, Siberia, Kamtschatka, and the Kurile Islands, and formerly in Lapland; being found in Asia as low as 58°, and in America even to 40° N. lat. The sables frequent the banks of rivers and the thickest parts of the woods; avoiding the rays of the sun, which soon change the color of their hair. They live in holes of the earth, or beneath the roots of trees; sometimes they form nests in the trees, and skip with great agility from one to the other; they are very lively, and very active and restless during the night. Dr. Gmelin tells us that, after eating, they generally sleep half an hour or an hour, when they may be pushed, shaken, and even pricked, without awaking. A tame one kept by him rose upon its hind legs on the sight of a cat, to prepare for combat. In the woods they are much infested by wild cats. In summer they prey on ermines, weasels, and squirrels, but especially on hares; in winter on birds; in autumn on whortleberries, cranberries, and the berries of the service tree; but their skins are then at the worst; that diet causing their skins to itch, and to rub off their fur against the trees. They bring forth in March or April; and have from three to five at a time, which they suckle for four or five weeks. In spring, after shedding the coat, the fur is sometimes of a tawny cast, and sometimes of a snowy whiteness. The blackest are reputed the best; and sometimes sell, even in Siberia, from £1 to £10 sterling each. See *SABLE*.

M. zibellina nigra, the black sable, has the back, belly, legs, and tail black; the sides brown, and the tail very bushy. It is four feet two inches long from nose to rump; the tail is seventeen inches; the feet very broad and hairy all over. It has six small front teeth in each jaw; six large tusks; four grinders on each side in the upper jaw, and six on each side on the lower. It inhabits New York and Pennsylvania.

MUSTER, *v. n., v. a. & n. s.* } *Teut. muster;*
MUS'TER-BOOK, n. s. } *Belg. moustercn;*
MUS'TER-MASTER, } *Span. mostrar;*
MUS'TER-ROLL. } *Lat. monstrar.*

To assemble in array, or military show; to bring together; form an army: a muster is a collection of registered forces; or a review of such forces: 'to pass muster,' to be allowed to be borne upon the muster-roll of a regiment: muster-book and muster-roll are records or registers of military forces: muster-master, one who superintends the muster, its equipments, &c.

The principal scribe of the host *mustered* the people. *2 Kings.*

The captain, half of whose soldiers are dead, and the other quarter never *mustered* nor seen, demands payment of his whole account. *Spenser.*

Ye publish the *musters* of your own bands, and proclaim them to amount to thousands. *Hooker.*

A noble gentleman, then *mustermaster*, was appointed ambassador unto the Turkish emperor.

Knolles's History.

Why does my blood thus *muster* to my heart,
 So dispossessing all my other parts
 Of necessary fitness? *Shakspeare. Measure for Measure.*

Had we no quarrel to Rome, but that
 Thou art thence banished, we would muster all
 From twelve to seventy. *Shakspeare. Coriolanus.*

Shadow will serve for Summer: prick him: for we
 have a number of shadows to fill up the *muster-book*.

Id. Henry IV.

Mustermasters carry the ablest men in their pockets.

Raleigh.

All the names
 Of thy confederates too, be no less great
 In hell than here: that when we would repeat
 Our strength in *muster*, we may name you all.

Ben Jonson.

How many insignificant combatants are there in the Christian camp, that only lend their names to fill up the *muster-roll*, but never dream of going upon service?

Decay of Piety.

God is represented to us as the general of an army, drawing forth and ordering his creatures as a general summoneth to a rendezvous, *mustereth* and embattleth his troops.

Barrow.

All the wise sayings and advices, which philosophers could *muster* up to this purpose, have proved ineffectual to the common people.

Tillotson.

Old Anchises

Reviewed his *mustered* race, and took the tale.

Dryden.

A daw tricked himself up with all the gay feathers
 he could *muster*.

L'Estrange.

Double dealers may *pass muster* for a while: but all parties wash their hands of them in the conclusion.

Id.

A man might have three hundred and eighteen men in his family, without being heir to Adam, and might *muster* them up, and lead them out against the Indians.

Locke.

Deception takes wrong measures, and makes false *musters*, which sounds a retreat instead of a charge, and a charge instead of a retreat.

South.

Such excuses will not *pass muster* with God, who will allow no man's illdness to be the means of possible or impossible.

Id.

Having *mustered* up all the forces he could think of, the clouds above, and the deeps below: these, says he, are all the stores we have for water: and Moses directs us to no other for the cause of the deluge.

Woodcock's Voyage.

They reach the destined place,
 And muster there, and round the centre swarm,
 And draw together. *Blackmore's Creation.*
 One tragick sentence, if I dare deride,
 Which Betterton's grave action dignified;
 Or well-mouthed Booth with emphasis proclaims,
 Though but perhaps a muster-roll of names. *Pope.*
 The army of the sciences hath been of late, with a
 world of martial discipline, drawn into its close
 order, so that a view or a muster may be taken of it
 with abundance of expedition. For this great blessing
 we are wholly indebted to systems and abstracts,
 in which the modern fathers of learning, like prudent
 usurers, spent their sweat for the ease of us their children.
Swift.

Ye mustering thunders from above,
 Your willing victim see!
 But spare, and pardon my fause love,
 His wrangs to heaven and me! *Burns.*

MUSTER is a review of troops under arms to
 see if they be complete and in good order; to
 take an account of their numbers, the condition
 they are in, viewing their arms and accoutre-
 ments, &c.

MUSTYGANNIM, a town of the province of
 Tlemsan, in eastern Algiers, occupying in part
 the site of the ancient Cartiennæ. The name is
 said by Dr. Shaw to be derived from the good
 quality of the mutton in the neighbourhood. It
 ranks second to Tlemsan, and is defended by
 three castles, two of which guard the harbour;
 but the strongest is built on one of a number of
 eminences behind the city, and forms its security
 against the Arabs. Long. 0° 30' E., lat.
 36° 6' N.

MUTABLE, *adj.* } Fr. *mutabilité*; Lat.
 MUTABILITY, *n. s.* } *mutabilis*. Changea-
 MUTABLENESS, *n. s.* } bleness; inconsistency;
 MUTATION. } fickleness: mutableness
 is synonymous with mutability: mutation is,
 change; alteration.

Whan Luna full of *mutabyltete*
 As Emperes the dyademe hath worn
 Of our pole artyke, smyllynge halfe in ascorne
 At our foly, and our vntedfastnesse
 The time whan Mars to warre hym dyd dres.

The *mutability* of that end, for which they are
 made, maketh them also changeable. *Hooker.*

Ambitions, covetings, change of prides, disdain,
 Nice longings, slanders, *mutability*. *Shakspeare.*

For the *mutable* rank-scented many,
 Let them regard me, as I do not flatter.
Id. Coriolanus.

His honour
 Was nothing but *mutation*, ay, and that
 From one bad thing to worse. *Shakspeare.*

The vicissitude or *mutations* in the superior globe
 are no fit matter for this present argument.

To make plants grow out of the sun or open air is
 a great *mutation* in nature, and may induce a change
 in the seed. *Bacon's Essays.*

My fancy was the air, most free,
 And full of *mutability*,
 Big with chimeras. *Suckling.*

I saw thee *mutable*
 Of fancy, feared lest one day thou would'st leave me.
Milton.

Plato confesses that the heavens and the frame of
 the world are corporeal, and therefore subject to
mutability. *Stillingfleet.*

Of things of the most accidental and *mutable* nature,
 accidental in their production, and *mutable* in
 their continuance, yet God's presence is as certain
 in him as the memory is or can be in us.

South's Sermons.

MUTE, *adj. & n. s.* } Fr. *muet*; Lat. *mutus*;
 MUTELY. } Greek, *μῦθος*. Silent;
 dumb; without voice: a mute is, one speech-
 less; a letter which cannot be sounded without
 a vowel; a kind of funeral page: mutely or si-
 lently, without speech or noise.

Say she be *mute*, and will not speak a word,
 Then I'll commend her volubility. *Shakspeare.*
 Either our history shall with full mouth
 Speak freely of our acts; or else our grave,
 Like Turkish *mute*, shall have a tongueless mouth.
Id.

All sat *mute*
 Pondering the danger with deep thoughts.
Milton.

All the heavenly choir stood *mute*,
 And silence was in heaven. *Id. Paradise Lost.*
 Driving dumb Silence from the portal door,
 Where he had *mutely* sat two hours before.

Milton.
 He that never hears a word spoken, no wonder
 if he remains speechless: as one must do, who from
 an infant should be bred up amongst *mutes*, and have
 no teaching. *Holder.*

Grammarians note the easy pronunciation of a
mute before a liquid, which doth not therefore neces-
 sarily make the preceding vowel long. *Id.*

Why did he reason in my soul implant,
 And speech, the' effect of reason! To the *mute*
 My speech is lost; my reason to the brute.

Dryden.
Mute solemn sorrow, free from female noise,
 Such as the majesty of grief destroys. *Id.*

The whole perplexed ignoble crowd,
Mute to my questions, in my praises loud,
 Echoed the word. *Prior.*

O! be it lawful now
 To tread the hallowed circle of your courts,
 And with *mute* wonder and delighted awe
 Approach your burning confines.

Barbauld on the Solar System.
 To MUTE, *v. n.* Fr. *mutir*. To dung as
 birds.

Mine eyes being open, the sparrows *mut* warm
 dung into mine eyes. *Mut. ii. 10.*

I could not fright the crows,
 Or the least bird from *muting* on my head.

The bird not able to digest the fruit, from her in-
 converted *muting* ariseth this plant. *Browne.*

MUTE, STANDING. A prisoner is said to stand
 mute when, being arraigned for treason or felony,
 he either 1, makes no answer at all: or 2, an-
 swers foreign to the purpose, or with such mat-
 ter as is not allowable, and will not answer
 otherwise: or 3, upon having pleaded not
 guilty, refuses to put himself upon the country.
 If he says nothing, the court ought to impannel
 a jury to try whether he stands obstinately mute,
 or whether he be dumb ex visitatione Dei. If
 the latter appear to be the case, the judges of the
 court (who are to be of counsel for the prisoner,
 and to see that he hath law and justice) shall
 proceed to the trial, and examine all points as if
 he pleaded not guilty. But whether judgment
 of death can be given against such a prisoner,
 who hath never pleaded, and can say nothing in

arrest of judgment, is a point yet undetermined.

In one class of cases mute-standing was equivalent to conviction. It appears that for the highest, as well as the lowest crime known to the law, the prisoner received the same judgment and execution when obstinately mute, as if he were tried and convicted, namely, in high treason on the one hand, and in petit larceny and all misdemeanors on the other. In another class, the punishment of *peine forte et dure* was inflicted. The reason for this distinction in the practice of arraignment on different felonies does not appear, further than it may be conjectured that in petty offences the punishment did not affect the life of the prisoner, and in high treason the government chose to adopt the most summary means of avenging its wrongs. Be this, however, as it may, it seems that, upon appeals or indictments for other felonies than petit larceny, the prisoner was not by the ancient law looked upon as convicted, so as to receive judgment for felony, but for his obstinacy received the terrible sentence of penance, or *peine* (probably a corrupted abbreviation of *prisonne*) *forte et dure*.

As a sample of the judicial tortures which were inflicted upon accused persons in times, happily, long past, we may quote the particulars of this barbarous species of judgment. It was ordered, if the prisoner stood mute, that he should be remanded to the prison from whence he came, and put into a low dark chamber, and there be laid on his back, on the bare floor, naked, unless where decency forbids; that there be placed upon his body as great a weight of iron as he could bear, and more; that he have no sustenance, save only on the first day three morsels of the worst bread; and on the second day three draughts of standing water, that should be nearest to the prison door; and in this situation this should be alternately his daily diet, till he died. It appears that the prisoner might possibly subsist for forty days under this lingering punishment, and the practice of loading him with weights, or, as it was usually called, pressing him to death, was gradually introduced, being intended as a species of mercy to the delinquent, by delivering him the sooner from torment.

It appears, from some of the ancient authorities on this subject, that in the execution of the sentence, the prisoner was ordered to lie without any litter or other thing under him, and that one arm should be drawn to one quarter of the room with a cord, and the other to another, and that his feet should be used in the same manner. And it seems also that a hole was made for the head, so that it should not touch the earth. The water given him was to be the worst next the prison.

Before this sentence was pronounced, the prisoner had not only *trina admonitio*, but also a respite of a few hours, and the sentence was distinctly read to him that he might know his danger; and after all, if he continued obstinate, and his offence was clergyable, he had the benefit of his clergy allowed, even though he was too stubborn to pray it. Such was the barbarous state of the law on this subject until the early

part of the last reign. The sentence, however, had not in recent times been carried into execution. By the 12 Geo. III. c. 20, it was enacted that every person arraigned for felony or piracy, and standing mute, or not answering directly to the offence, should be convicted of the same; and the same judgment and execution (with all their consequences in every respect) was thereupon awarded, as if the person had been convicted by verdict or confession of the crime. Two instances occurred since the passing this statute of persons who refused to plead, and who were in consequence condemned and executed, one at the Old Bailey for murder, in 1778, the other for burglary at the summer assizes at Wells in 1792.

But now, by the 7 and 8 Geo. IV. c. 28, if the accused refuse to plead, or stand mute, the court may direct the proper officer to enter a plea of not guilty on his behalf, which has the same effect as if he had actually pleaded. Thus, at length, the law accords with the principles of reason and humanity.

To advise a prisoner to stand mute is a high misprision, a contempt of the king's court, and punishable by fine and imprisonment.

MUTILATE, *v. a.* *Fr. mutiler*; *Lat. mutilatio*, *n. s.* *§ tulo*. To maim; deprive of some essential part or limb.

The subject hath been oppressed by fines, imprisonments, mutilations, pillories, and banishments.

Clarendon.

Such fearing to concede a monstrosity, or mutilate the integrity of Adam, preventively conceive the creation of thirteen ribs.

Browne.

Mutilations are not transmitted from father to son, the blind begetting such as can see: cripples, mutilate in their own persons, do come out perfect in their generations.

Id.

Sylburgius justly complains that the place is mutilated.

Stillingfleet.

Among the mutilated poets of antiquity there is none whose fragments are so beautiful as those of Sappho.

Addison.

Aristotle's works were corrupted, from Strabo's account of their having been mutilated and consumed with moisture.

Baker.

MUTILLA, in zoology, a genus of insects belonging to the order hymenoptera. The most remarkable species is,

M. occidentalis, the velvet ant, an inhabitant of North America. It has six legs, with short crooked antennæ; the abdomen large, with a black list crossing the lower part of it, and another black spot at the joining of the thorax; excepting which the whole body and head resemble crimson velvet. The trunk or shell of the body is of such a strong and hard contexture, that though trod upon by men and cattle they receive no harm. They have a long sting in their tails, which causes inflammation and great pain for half an hour to those who are stung by them; which usually happens to negroes and others that go barefooted. They are mostly seen running very nimbly on sandy roads in the hottest summer weather, and always single. See ENTOMOLOGY.

MUTINA, in ancient geography, a noble city of Gallia Cispadana, made a Roman colony in the same year with Parma, situated between the

rivers Gabellus and Scultenna, on the Via Æmilia. Here D. Brutus, being besieged by Antony, was relieved by the consuls Hirtius and Pansa. The Greeks called it Mutine; except Polybius, in whom it is Motine; and in Ptolemy Mutina. It is now called Modena.

MUTINE, *n. s.*

MUTINEER,

MUTINOUS, *adj.*

MUTINOUSLY, *adv.*

MUTINOUSNESS, *n. s. & v. n.*

MUTINY, *n. s.*

The modern word: mutinous is, seditious; turbulent; moving to insurrection: mutiny, sedition; insurrection: to mutiny, to rise against lawful authority; make or join in insurrection.

The spirit of my father begins to mutiny against this servitude.

Shakspeare. As You Like It.

I th' war,

Their mutinies and revolts, wherein they shewed Most valour, spoke not for them. *Id. Coriolanus.*

A woman, a young woman, a fair woman, was to govern a people in nature mutinously proud and always before used to hard governours. *Sidney.*

The king fled to a strong castle, where he was gathering forces to suppress this mutiny. *Id.*

In my heart there was a kind of fighting,

That would not let me sleep; methought I lay

Worse than the mutines in the bilboes.

Shakspeare.

It tauntingly replied

To the discontented members, the mutinous parts,

That envied his receipt. *Id. Coriolanus.*

The war of the duke of Urbin, head of the Spanish mutineers, was unjust. *Bacon.*

The laws of England should be administered, and the mutinous severely suppressed. *Hayward.*

What do these mutineers say? Oh that we had died by the hand of the Lord!

Bp. Hall.

Less than if this frame

Of heaven were falling, and these elements

In mutiny had from her axle torn

The stedfast earth. *Milton's Paradise Lost.*

Lend me your guards, that, if persuasion fail, Force may against the mutinous prevail. *Waller.*

The people mutiny, the fort is mine,

And all the soldiers to my will incline. *Id.*

Soldiers grow pernicious to their master who becomes their servant, and is in danger of their mutinies, as much as any government of seditious.

Temple.

Set wide the mufti's garden-gate,

For there our mutineers appoint to meet. *Dryden.*

My ears are deaf with this impatient crowd;

Their wants are now grown mutinous and loud.

Id.

Men imprudently often, seditiously and mutinously sometimes, employ their zeal for persons.

Sprat's Sermons.

When Cæsar's army mutinied, and grew troublesome, no argument could appease them. *South.*

They have cashiered several of their followers as mutineers, who have contradicted them in political conversations. *Addison.*

MUTINY. Any officer or soldier who shall presume to use traitorous or disrespectful words against the sacred person of his majesty, or any of the royal family, is guilty of mutiny. Any officer or soldier who shall behave himself with contempt or disrespect towards the general or other commander in chief of our forces, or shall speak

words tending to their hurt or dishonor, is guilty of mutiny. Any officer or soldier who shall begin, excite, cause, or join in any mutiny or sedition, in the troop, company, or regiment to which he belongs, or in any other troop or company in our service, or on any party, post, detachment, or guard, on any pretence whatsoever is guilty of mutiny. Any officer or soldier who being present at any mutiny or sedition, does not use his utmost endeavours to suppress the same, or coming to the knowledge of any mutiny, or intended mutiny, does not without delay give information to his commanding officer, is guilty of mutiny. Any officer or soldier who shall strike his superior officer, or draw, or offer to draw, or shall lift up any weapon, or offer any violence against him, being in the execution of his office, on any pretence whatsoever, or shall disobey any lawful command of his superior officer, is guilty of mutiny.

MUTIUS (Caius), surnamed Codrus, and afterwards Scævola, was one of the illustrious Roman family of the Mutii, and rendered his name famous in the war between Porsenna king of Tuscany, and the Romans. That prince, resolving to restore the family of Tarquin II., went to besiege Rome A. A. C. 507. Mutius resolved to sacrifice himself for the safety of his country; and, boldly entering the enemy's camp, killed Porsenna's secretary, whom he took for Porsenna himself. Being seized, and brought before Porsenna, he told him boldly that 300 young men like himself had sworn to kill him; but since this hand has missed thee, continued he, it must be punished; then, putting his right hand on the burning coals, he let it burn with such a constancy as astonished the beholders. The king, amazed at the intrepidity of this young Roman, ordered that he should have his freedom and return to Rome, and soon after concluded a peace with the Romans. From this action Mutius obtained the surname of Scævola, or left-handed, which was continued in his family.

MUTIUS SCÆVOLA (Quintus), surnamed the Augur, was an excellent civilian, and instructed Cicero in the laws. He was made prætor in Asia; was afterwards consul, and performed very important services for the republic.

MUTIUS SCÆVOLA (Quintus), another excellent civilian who was prætor in Asia, tribune of the people, and at length consul, A. A. C. 95. He governed Asia with such prudence and equity that his example was proposed to the governors who were sent into the provinces. Cicero says that he was the most eloquent orator of all the civilians, and the most able civilian of all the orators. He was assassinated in the temple of Vesta during the wars of Marius and Sylla, A. A. C. 82.

MOTTEODOU, a town of the Mysore, south of India. The vicinity abounds with soda; and the town is celebrated for the manufacture of glass bracelets, which are worn by females all over India. Long. 76° 25' E., lat. 13° 30' N.

MUTTER, *v. n., v. a. & n. s.* } Lat. *mutio,*

MUTTERER. } of *mutus*; Gr.

μῦθος. To murmur; grumble; complain inarticulately; to utter with imperfect articulation: it is used as a substantive by Milton for the

murmur or obscure sounds made: a mutterer is, a grumbler.

MUTTON, *n. s.* } Fr. *mouton*. The flesh
MUTTON-FIST. } of sheep: mutton-fist, a
 large and red fist.

MUTUAL, *adj.* } Fr. *mutuel*; Lat. *mu-*
MUTUALLY, *adv.* } *tualis*. Acting in turn or
MUTUALITY, *n. s.* } in correspondence; reci-
 procal: mutuality is reciprocation.

MUTUAL INSTRUCTION is the name given to that arrangement of schools, by which the more able scholars in every class assist and superintend their fellow pupils. This name, which originated in France, is not appropriate, as mutual instruction does not, in fact, take place, but some of the most distinguished scholars occupy the place of the master, while the less able do not in turn instruct them. The origin of this system may be traced to India, where the traveller Della Valle found it established as early as the sixteenth century. The object of this system is to carry on schools chiefly by means of the scholars themselves, and to instruct an uncommon number of pupils at once (Lancaster had 880 together, and says that he could teach 1000), with comparatively few masters and little expense. The pupils are divided into small classes, each instructed by one of the more advanced scholars, in reading, writing, arithmetic, &c., as far as the little teacher has been taught previously by the master. Such little teachers are called *monitors*, and have a class of about ten on a bench, or as Bell prefers, standing in a semicircle. The oldest and most trustworthy pupils have the superintendence as general monitors. Other assistants take care of the lower departments of service, or the police of the school; one notes down the absent, one rules the writing-books, attends to the distribution of slates, &c. The strictest discipline and order being observed, the whole appears like a great piece of clock-work, which moves without the interference of one part with another. The school resembles an army, which a single man is enabled to command by means of order and discipline, and because every one knows precisely his duty. All are instructed, and teachers are formed at the same time. Cheapness is always kept in view. The pupils commence learning writing, by making figures on tables covered with sand; then old paper, written or printed on one side, is taken. In England, where this system was first introduced from India, 500,000 (in London alone, 8,000, in 43 schools), in Ireland, 30,000 children, are educated according to this method, which has been greatly improved of late years. Lancaster was engaged, in 1824, in establishing similar schools, under the protection of Bolivar, in the South American republic Columbia. In the British East Indies, a society at Calcutta has established 88 schools on his plan, which has been also adopted at Malta, the Cape of Good Hope, on the Senegal, in Sierra Leone, and other English colonies. The Greeks also have made use of this means for the establishment of elementary schools (in which they were entirely deficient), on a cheap plan, at Athens, Argos, and on the islands. From France, an interest for them was excited in Italy, where Tuscany

and Parma (the latter since 1822) have permitted their establishment. In Naples and in Spain, where similar schools were established under the cortes of 1821 and 1822, in the principal towns, they were prohibited in 1823. France had, in 1821, as many as 1197 schools for children, and 166 regimental schools, according to this system. The latter were compelled, under the Bourbons, to renounce this method entirely, and the constant opposition of the ecclesiastics and the ministry lessened the number of the former, it being considered dangerous, and savoring of liberalism, to keep on foot such an institution for the improvement of the nation, in a country, where, amongst 24,000,000 of adults, only 9,000,000 could write and read, and of 6,000,000 of children, only 1,600,000 enjoyed the benefit of school education. From a similar cause, this system was prohibited in the Austrian army and throughout Austria; and, in Russia, the zeal with which it was at first received soon abated, so that only attempts on a very small scale were allowed. The Danish government, on the contrary, began, in 1819, with great zeal and success, to introduce these schools in Denmark, Holstein and Sleswick. The plan, though not the same in all particulars, resembles, in its chief traits, that of Bell and Lancaster. The number of schools in that country has rapidly increased, and, according to a late report, amounted, in 1829, to 2646. Professor Schuhmacher, rector of the cathedral school at Sleswick, in a report on the system of mutual instruction, observes, that it is excellent, as long as it limits itself to matters of mechanical skill or of mere memory. It saves time for the teacher and pupil; it saves expense in the business of education, and is highly beneficial for all elementary schools containing a large number of pupils, differing so much in knowledge and intelligence, that one teacher cannot instruct them all at the same time, but is obliged to divide them into many classes. This method, however, is superfluous in schools in which the number of pupils is so small that the teacher can superintend and instruct them conveniently, particularly where all the members of one class have made nearly equal progress. And even in common schools, it would be injurious to strive to bring every thing into this form, as it would put a stop to the highest kind of instruction; and in the institutions for a more advanced stage of education, where a scientific spirit, independent thought, the formation of the judgment and taste, are the objects, it is more peculiarly inapplicable. Much information respecting this method in Denmark is contained in the *Progrès de l'Enseignement Mutuel en Danemark, extrait d'un Rapport au Roi, par M. d'Abramson, Major*, &c. (Copenhagen, 1825). The proper field of this system is, undoubtedly, elementary instruction. It will hardly be denied that it is of great assistance in teaching the rudiments of knowledge, reading, writing, and ciphering, besides accustoming the pupils to habits of order. It will also be admitted, at least by all who live in popular governments, that every individual ought to be taught reading, and writing, without which, in the present state of the world, he is

excluded from half the benefits of existence. Where, therefore, a large population is imperfectly supplied with the means of instruction, schools of this character will be of great benefit. Besides all primary instruction must be addressed chiefly to the memory, notwithstanding learning by rote is so much decried in our day; and teachers, we imagine, might often accelerate the progress of their pupils in the branches taught in early childhood, by a more extensive application of the system of mutual instruction. The late king of Portugal established, in 1824, a central school on these principles, at Lisbon, through the instrumentality of professor Lecocq; but it has probably long since been destroyed by the violent convulsions of that unhappy country.

MUTUALES, or **METUALES**, an independent sect of Sunnite Mahometans, in Syria. They are governed by their own sheiks and emirs, and have rendered themselves formidable to the Turks by their cavalry. Balbec is situated in the country they occupy between Libanus and Antilibanus.

MUZUFIRABAD (the Place of Victory), a district and town of Afghaunistaun. The district is mountainous, but tolerably well watered by the Jhylum, and other streams; but there are said to be no bridges over the river, except those of boats and inflated sheep-skins. The town is the residence of a Mahometan chief.

MUZZLE, *n. s., v. a., & v. n.* *Arm. muezal; Belg. moesel; Pr. museau; Ital. mussok.* 'Quasi mouth-seal,' says Minshew: but unkindly for the etymology it means also an unsealed mouth. The mouth of any thing or person; used contemptuously of man; a fastening or lock for the mouth: to muzzle is to fondle with the mouth; fasten or bind up the mouth; and hence to restrain; also, to bring the mouth near.

MY, *pronoun possessive.* Belonging to me, See **MINE**. My is used before a substantive, and mine, properly, before a vowel. My is used when the substantive follows, and mine when it goes before: as, this is my book; this book is mine.

Her feet she on my neck doth place. *Spenser.*

I conclude my reply with the words of a Christian poet. *Bramhall.*

MYA, in zoology, the gaper, a genus belonging to the order of vermes testacea, the characters of which are these: it has a bivalve shell gaping at one end; the hinge, for the most part, furnished with a thick, strong, and broad tooth, not inserted into the opposite valve. Its animal is an ascidia. The most remarkable species are these:—

1. *M. declivis*, the sloping mya, has a brittle half-transparent shell, with a hinge slightly prominent near the opening, and sloping downwards. It inhabits the rivers of Europe. It is frequently about the Hebrides; the fish are eaten there by the gentry.

2. *M. margaritifera*, the pearl muscle, has a very thick, coarse, opaque shell, often much deformed; oblong, bending inward on one side, or arcuated; black on the outside; usual length from five to six inches, breadth two and a quarter. It inhabits great rivers, especially those which water

the mountainous parts of Great Britain. This shell is noted for producing quantities of pearl. There have been regular fisheries for this precious article in several of our rivers. Sixteen have been found within one shell. They are the disease of the fish, analogous to the stone in the human body. On being squeezed they will eject the pearl, and often cast it spontaneously in the sand. The Conway was noted for them in the days of Camden. It is said that Sir Richard Wynne of Gwyder, chamberlain to Catharine, queen to Charles II., presented her majesty with a pearl found in a muscle in this river, which is still in the regal crown. They are called by the Welsh *cregin diluw*, or *deluge shells*, as if left there by the flood. The Irt of Cumberland also produced them. The famous circumnavigator Sir John Hawkins had a patent for fishing in that river. He had observed pearls plentiful in the Straits of Magellan, and flattered himself with being enriched by procuring them within his own island. In the seventeenth century several of great size were got in the rivers of Tyrone and Donegal in Ireland. One that weighed thirty-six carats was valued at £40, though, being foul, its value was much diminished. Other single pearls were sold from £4 10s. to £10. The last was sold a second time to lady Glenlealy, who put it into a necklace, and refused £80 for it from the duchess of Ormond. Suetonius reports that Cæsar was induced to undertake his British expedition for the sake of our pearls; and that they were so large that it was necessary to use the hand to try the weight of a single one. Pennant supposes that the crystalline balls called mineral pearl were taken for them. Cæsar, we are told, brought home a buckler made with British pearl, which he dedicated to, and hung up in, the temple of Venus Genitrix; a proper offering to the goddess of beauty, who was believed to have sprung from the sea. Pliny says that a red small kind was found about the Thracian Bosphorus in a shell called mya; but does not give it any mark to ascertain the species. This fish will bear removal remarkably well; and it is said that in some places they form reservoirs for the purpose of keeping it, and taking out the pearl, which, in a certain period of time, will be again renewed. From observations on the growth of these shells, and the number of their annular laminæ, or scales, it is supposed the fish will attain a very great age; fifty or sixty years are imagined to be a moderate computation. See **PEARL**.

3. *M. pictorum* has an oval brittle shell, with a single longitudinal tooth like a lamina in one shell, and two in the other; the length is a little above two inches, the breadth one. It inhabits rivers. The shells are used to put water-colors in; whence the name. Otters feed on this and the other fresh-water shell-fish.

MYAGRUM, gold of pleasure, in botany, a genus of the siliculosa order, and tetradynamia class of plants; natural order thirty-ninth, siliquosæ: silicula terminated by an oblong style; the cell generally monospermous. There are five species; but the only remarkable one is,

M. sativum, which grows naturally in corn fields in the south of France and Italy, and in

some parts of Britain. It is an annual plant, with an upright stalk a foot and a half high, sending two or four side branches, which grow erect; the flowers grow in loose spikes at the end of the branches, standing upon short foot-stalks an inch long; these are succeeded by oval capsules, which are bordered and crowned at the top with the style of the flower, having two cells filled with red seeds. This is cultivated in Germany for the sake of the expressed oil of the seeds, which the inhabitants use for medicinal, culinary, and economical purposes. The seeds are a favorite food with geese. Horses, goats, sheep, and cows, eat the plant.

MYCALE, a promontory of Asia, opposite Samos, celebrated for a battle which was fought there between the Greeks and Persians about the year of Rome 275. The Persians were about 100,000 men, who had just returned from the unsuccessful expedition of Xerxes in Greece. They had drawn their ships to the shore, and fortified themselves strongly, as if determined to support a siege. They suffered the Greeks to disembark from their fleet without molestation, and were soon obliged to give way before the cool and resolute intrepidity of an inferior number of men. The Greeks, under Leotychides, king of Sparta, obtained a complete victory, slaughtered some thousands of the enemy, burned their camp, and sailed back to Samos with an immense booty, in which were seventy chests of money.

MYCENÆ, in ancient geography, a town of Argolis, in Peloponnesus. The kingdom of the Argives was divided into two portions by Acrisius and his brother Prætus. Argos and Mycenæ were their capitals. These, as belonging to the same family, and distant only about fifty stadia, or six miles and a quarter, from each other, had one tutelary deity, Juno, and were jointly proprietors of her temple, the Heræum, which was near Mycenæ. It was here that Agamemnon reigned. He enlarged his dominions by his valor; and possessed, besides Mycenæ, the region about Corinth and Sicyon, and that called afterwards Achæa. On his return from Troy he was slain with his companions, at a banquet, by his adulterous wife Clytemnestra, and her paramour Egisthus. Mycenæ then declined; and under the Heraclidæ was made subject to Argos. The Mycenæans, sending eighty men, partook with the Lacedæmonians in the glory acquired at Thermopylæ. The jealousy of the Argives produced the destruction of their city, which was abandoned after a siege, and laid waste in the first year of the seventy-eighth Olympiad, or 466 years before Christ. Some part of the wall remained in the second century, with a gate, on which were lions, a fountain, the subterraneous edifices where Atreus and his sons had deposited their treasures; and, among other sepulchral monuments, one of Agamemnon, and one of his fellow-soldiers and sufferers. For the modern state of the ruins of the acropolis, &c., see GREECE, vol. X. p. 628.

MYCITHUS, regent of Rhegium. On the death of Anaxilans he was entrusted with the care of his children and the government of the kingdom, which he conducted with great popu-

larity and fidelity; and restored the kingdom to the princes when they grew up.

MYCONOS, or **MYCONUS**, in ancient geography, one of the Cyclades, near Delos, under which the giants and Centaurs slain by Hercules are feigned to lie buried. Hence the proverb, *Omnia sub Myconum congerere*, i. e. every thing lies under Myconum, applied to an injudicious or unnatural farrago. The island was poor, and the inhabitants very avaricious; whence Archilochus reproached Pericles, that he came to a feast like a Myconian; that is, without previous invitation. It is now called Mycone.

MYCTERIA, the jabiru, in ornithology, a genus of birds belonging to the order of grallæ. The bill is long, bending upwards, and acute; the nostrils are small and linear; there is no tongue; and the feet have four toes. There are two species:—

1. *M. Americana*, the American jabiru, is about the size of a turkey. The bill is long, stout, and of a black color: the whole plumage is white, except the head, and about two-thirds of the neck, which are bare of feathers, and of a blackish color; the remainder is also bare, and of a fine red; on the hind head are a few grayish feathers; the legs are strong, of a great length, and covered with black scales; wings and tail even at the end. This species is found in all the savannas of Cayenne, Guiana, and other parts of South America. They are migratory and gregarious. The female makes its nest in great trees, which grow on the borders; lays two eggs, and brings up the young in the nest till they can descend to the ground. The color of the young bird is gray; in the second year it changes to rose color; and in the third to pure white. They are very wild and voracious, and devour fish in great quantities. The flesh of the young birds is said to be good, but that of the old is hard and oily.

2. *M. Asiatica*, the Indian jabiru, is of a large size. The bill is dusky, almost straight above, and gibbous near the forehead; the under mandible swelled beneath; and from the base of the bill there passes through and beyond the eye a black streak. The general color of the plumage is white; the lower half of the back, the prime quills, and the tail, are black; the legs a pale red. This species inhabits the East Indies, and feeds on snails.

MYIAGRUS DEUS, in heathen mythology, a name given sometimes to Jupiter, and sometimes to Hercules, for driving away the vast numbers of flies which infested the sacrifices on certain public occasions. The word is usually spelt *Myagrus*; but this must be an error, as this word does not express the fly-destroyer, but the mouse destroyer; and we have it sufficiently testified by the ancients that flies were the only creatures against whom this deity was invoked. Pliny calls this deity *Myiodes*, and says that the flies which used to pester the Olympic rites went away in whole clouds on sacrificing a bull to this god. We find in Athenæus also that this sacrificing to the god of flies at the Olympic games was a constant custom. Some distinguish these two deities, and tell us that *Myiodes* used to visit the nations in vengeance, with a vast

multitude of flies; and that, on paying him the due honors of a sacrifice, they all went away again. At the Olympic games Jupiter was worshipped under the name of Apomyos, or Myiagrus Deus. This happened only once in many years; but the Elians worshipped him continually under this name, to deprecate the vengeance of heaven, which usually sent an army of flies and other insects about the end of summer, that infested the country with pestilence.

MYLASA, or MYLASSA, in ancient geography, a noble city of Caria in Asia Minor, situated about nine miles from the Sinus Ceramicus. It was the capital of Hecatomnus, king of Caria, the father of Mausolus. Pliny speaks of Menander, king of Caria, and says that the Rhodians preserved, with the greatest care, his portrait, painted by Apelles; but it was not in honor of this Menander that a Corinthian pillar was erected at Mylasa, which still exists, and on which is to be seen the following inscription: 'The people erected this pillar in honor of Menander, the son of Uliades, and grandson of Euthydemus, the benefactor of his country, and whose ancestors rendered it great services also.' Euthydemus, the grandfather of this Menander, lived in the time of Julius Cæsar and Augustus. Caria was taken by Mithridates, and afterwards by Labienus, whose father had been one of Cæsar's generals. Hybrias, whose eloquence and valor deservedly entitled him to a distinguished rank among his countrymen, in vain encouraged them to defend it when it was besieged by the latter. He himself was obliged to yield to necessity, and to take refuge at Rhodes: but scarcely had the conqueror quitted the city when Hybrias returned, and restored liberty to his country. He also destroyed the power of an ambitious citizen, whose riches and talents had rendered him a necessary evil. Euthydemus, often banished, and as often recalled, always too powerful in a state, the independence of which he threatened, saw his ambition checked by the zeal and activity of Hybrias. The Romans left to Mylasa that liberty of which it rendered itself so worthy by the great efforts it made to preserve it. Pliny calls it Mylasa libera. Strabo informs us that it was one of the most magnificent cities of antiquity, and one of those the temples, porticoes, and other public monuments of which were highly admired. A quarry of white marble in the neighbourhood furnished it with abundance of materials for erecting these edifices. The Mylasians had two temples dedicated to Jupiter, one situated in the city, which was named Osogo, and another on a mountain, sixty leagues distant. The latter was dedicated to Jupiter Stratus, Jupiter the warrior. His statue, which was very ancient, inspired great veneration; people came from all quarters to implore his protection; and for the greater accommodation of his votaries a paved way was constructed, which reached from Mylasa to this venerable fabric. Round the town are now seen ranges of broken columns, the remnants of porticoes, now with rubbish bounding the vineyards. A large portion of the plain is covered with scattered fragments, and with piers of ordinary aqueducts; besides inscriptions, mostly ruined and illegible,

some altars, dedicated to Hecatomnus, have been discovered. Of all the ancient temples which formerly ornamented this city one only escaped the power of time, the blind zeal of the early Christians, and the barbarous superstition of the Mahometans. This monument was dedicated to Augustus and the divinity of Rome. When Poocke visited the place it was perfect and entire; but at present no traces of it remain except a few fragments, which have been employed to construct a Turkish mosque.

MYLNE (Robert), the builder of Blackfriars bridge, London, was the son of an architect, who was a magistrate of Edinburgh, where he was born in 1743. After receiving an excellent education he was sent to Rome, and while in that capital gained the first prize in the architectural class, and was chosen a member of the academy of St. Luke, and of the academies of Florence and Bologna. Returning home, he established himself in London, and among other undertakings commenced Blackfriars bridge in 1760, and completed it in ten years in a highly creditable manner. It was the first work of this kind in Britain, in which elliptical arches were substituted for semicircles. Mylne also obtained the appointment of surveyor of St. Paul's cathedral. His death took place in 1811.

MYMUNSING, a large district of Bengal, situated principally between 24° and 25° of N. lat., and intersected by the river Brahmapootra, into which flow on both sides innumerable streams. It is frequently inundated during the rainy season, and produces immense crops of coarse rice. Some parts of the district are overrun with wood. The population consists of nearly equal numbers of Hindoos and Mahometans. The chief town is Bygonbary.

MYNSICHT (Hadrian), physician to the duke of Mecklenburg and several other German princes, was distinguished for his knowledge of chemistry, at the beginning of the seventeenth century. He published a work, entitled *Armentarium Medico-Chymicum*, which has undergone various editions; but his description of several medicines and their virtues is not always to be depended upon. He discovered the *sal de duobus*, or *Arcanum*.

MYOL'OGY, *n. s.* Fr. *myologie*. The description and doctrine of the muscles.

To instance in all the particulars, were to write a whole system of *myology*.

Cheyne's Philosophical Principles.

MYOMANCY, a kind of divination, or method of foretelling future events by means of mice. Some authors hold myomancy to be one of the most ancient kinds of divination; and think it is on this account that Isaiah, lvi. 17, reckons mice among the abominable things of the idolaters. But, besides that it is not certain that the Hebrew word עִבְבָר, used by the prophet, signifies a mouse, it is evident it is not the divination by that animal, be it what it will, that is spoken of, but the eating it.

MYOSOTIS, scorpion-grass, a genus of the monogynia order, and pentandria class of plants; natural order forty-first, asperifolia: cor. salver shaped, quinquefid, and emarginated; the

throat shut up by small arches; the most remarkable species is,

M. scorpioides, the mouse-ear. This is a native of Britain, growing naturally in dry fields, and on the margins of springs and rills. It has naked seeds, and the points of the leaves calous. It varies considerably in different situations. In dry places the plant and flowers are smaller; in moist ones both are larger, and sometimes hairy. The blossoms vary from a full blue to a very pale one, and sometimes a yellow; and appear in a long spirally twisted spike. When it grows in the water, and its taste and smell is thereby rendered less observable, sheep will sometimes eat it; but it is generally fatal to them. Cows, horses, swine, and goats, refuse it.

MYOSURUS, mouse-tail, in botany, a genus of the polygynia order, and pentandria class of plants; and in the natural method ranking under the twenty-sixth order, multisiliquæ: *cal.* pentaphyllous, the leaves cohering at the base; there are five subulated nectaria resembling petals: SEEDS numerous.

MYOXUS, the dormouse, in zoology, a genus of quadrupeds belonging to the order of glires; formerly included by Linnæus under the genus *Mus*. There are two fore teeth in each jaw; the upper ones cuneated, the under compressed: the whiskers are long; the tail is hairy and round, growing thicker towards the extremity; the fore and hind legs are of equal length, and the fore feet have four toes. There are four species:—

1. *M. dryas*, the wood dormouse, is of a reddish-brown or tawny gray color on the upper, and a dirty white on the under parts of the body; having a black line from ear to ear across the eyes. It differs from the garden dormouse only in color, and in having a shorter and more bushy tail, and in wanting the black spots near the ears. Dr. Gmelin, however, ranks them as distinct species.

2. *M. glis*, the hoary dormouse, is of a pale ash color on the upper parts of the body, and whitish on the under; and is about the size of the common squirrel, but thicker in the body. It inhabits France, the south of Europe, and the south-west of Russia about the Volga. This animal, which is the *ελειος* of Aristotle, *μυοζος* of Oppian, and *glis* of Pliny, was held in great esteem among the Romans, as a luxurious delicacy: they were fed in places called *gliiraria*, constructed for the purpose; and they are still eaten by the modern Italians. It forms a nest in the hollow of some tree, in which it sleeps all day: feeds in the night on nuts, walnuts, the seeds of apples, &c., and grows very fat in autumn. About October they gather in troops; and, retiring into subterraneous burrows, remain torpid till near the end of May. The female has ten teats, six of which are situated on the breast, and four on the belly; and she brings forth from nine to twelve young ones at a litter.

3. *M. muscardinus*, the common dormouse, is about the size of the domestic mouse, but of a plumper appearance; the nose is more blunt; the head, sides, belly, and tail, are of a tawny red color, the throat white. Dormice inhabit woods, or very thick hedges; forming their nests

in the hollow of some low tree, or near the bottom of a close shrub: they form magazines of nuts, and eat in an upright posture like the squirrel. The consumption of their board, however, during the rigor of the season, is but small; for they sleep most of the time, retiring into their holes: at the approach of winter they roll themselves up, and become torpid. Sometimes they experience a short revival in a warm sunny day, when they take a little food, and relapse into their former state. These animals seldom appear far from their retreats, or in any open place; whence they seem less common in Britain than they really are. They make their nests of moss, grass, and dead leaves; and bring three or four young at a time.

4. *M. nitela*, the garden dormouse, is of a tawny color on the upper parts of the body, and whitish ash tinged with yellow on the under; has a black circle round each eye, and a black spot behind each ear; and is five inches long, besides the tail, which measures four. They inhabit the south parts of Europe and Russia, and live chiefly in gardens, though sometimes found in houses. They are very destructive to fruit, particularly peaches, which they prefer to every other kind. They also eat peas, apricots, and plums; and, when soft fruits are not to be had, they will eat almonds, filberts, nuts, and even leguminous plants. Of these they carry off great quantities into their retreats, which they dig in the earth, and particularly in well cultivated gardens; for in old orchards they are often found in hollow trees, where they make beds of herbs, moss, and leaves; eight or ten of them are often found in the same place, benumbed, and rolled up in the midst of their provision of fruit and nuts. They copulate in spring, and bring forth in summer, five or six young, who grow very quickly, but are not fertile till the next year. Their flesh is not eatable, having the same disagreeable odor with the domestic rat.

MYREPSUS (Nicolas), was a physician of Alexandria, who collected into a kind of pharmacopœia all the compound medicines mentioned in the works of the Greek and Arabian writers. His work was completed before the beginning of the fourteenth century; and, though written in barbarous Greek, continued for a long time to be the rule of pharmaceutical preparations in Europe. A translation of it into Latin by Leonard Fusch is entitled *Opus Medicamentorum*, in Sectiones xlviii. digestum. There are many editions; the best is that of Herman Beverus, Nuremberg, 1658, 8vo.

MYRIAD, *n. s.* Gr. *μύριας*. Ten thousand: any great number.

Assemble thou,

Of all these *myriads*, which we lead, the chief.

Milton.

Are there legions of devils who are continually designing and working our ruin? there are also *myriads* of good angels who are more cheerful and officious to do us good.

Tillotson.

Safe sits the goddess in her dark retreat;

Around her, *myriads* of ideas wait,

And endless shapes.

Prior

With helmet heads and dragon-scales adorned,
The mighty *myriads*, now securely scorned,
Would mock the majesty of man's high birth,
Despise his bulwarks, and unpeople earth. *Cowper.*

True, thou art brave!—o'er all the busy land,
In patriot ranks embattled *myriads* stand;
Thy foes behold with impotent amaze,
And drop the lifted weapon as they gaze!

Canning.

MYRICA, gale, or sweet willow, in botany, a genus of the tetrandria order, and diœcia class of plants: natural order fifth, amentaceæ. The scale of both the male and female catkin is in the form of a crescent: cor. none; but two styles, and a monospermous berry. There are several species:—

M. cerifera, wax-bearing myrica, or candleberry myrtle, a native of North America. It is a small tree about ten or twelve feet high, with crooked stems branching forth near the ground irregularly. The leaves grow irregularly on them all round; sometimes by pairs, sometimes alternately, but generally at unequal distances. They are of a lanceolated figure; and some are serrated at the top, while others have their edges wholly entire. They stand on very short foot-stalks; having their upper surface smooth, and of a shining green color, and the under of a more dusky hue. The branches of the old plant shed their leaves in autumn; but the young plants raised from seeds retain them the greatest part of the winter. There are both male and female trees of this species; the flowers are small, of a whitish color, and make no figure; neither does the fruit, which is a small, dry, blue berry, though produced in clusters, make any show: it is from the leaves this tree receives its beauty and value; for these being bruised, with the bark of the young shoots, emit the most refreshing and delightful fragrance, exceeded by no myrtle, or any other aromatic shrub. There is a variety of this species: viz. *M. cerifera Carolinensis*. It is of lower growth, with shorter but broader leaves, and of equal fragrance; and grows in Carolina, where the inhabitants collect from its berries a wax of which they make candles; whence it is called candleberry tree. It delights in a moist soil.—The wax is procured in the following manner:—In November and December, when the berries are ripe, a man with his family will remove from home to some island or sand-bank near the sea, where these trees most abound, taking with them kettles to boil the berries in. He builds a hut with palmeto leaves for the shelter of himself and family during his residence there, which is commonly four or five weeks. The man cuts down the trees, while the children strip off the berries into a pot; and, having put water to them, they boil them till the oil floats, which is then skimmed off into another vessel. This is repeated till no more oil appears. When cold, this hardens to the consistence of wax, and is of a dirty green color. Then they boil it again, and clarify it in brass kettles; which gives it a transparent greenness. These candles burn a long time, and yield a grateful smell. They usually add a fourth part of tallow, which makes them burn clearer.

M. communis, the gale, Dutch myrtle, or sweet willow, grows naturally upon bogs in many places both of Scotland and England. It rises about four feet high, with many shrubby stalks, which divide into several branches, garnished with stiff spear-shaped leaves of a light yellowish green, smooth, and a little sawed at their points. The female flowers or catkins are produced from the sides of the branches, growing upon separate plants from the male, which are succeeded by clusters of small berries, each having a single seed. It flowers in July, and ripens in autumn. When transplanted into shrubberies, the moistest parts must be assigned to it. The leaves, flowers, and seeds, of this plant, have a strong fragrant smell, and a bitter taste. They are used for destroying moths and cutaneous insects; internally, in infusions, as a stomachic and vermifuge; and as a substitute to hops for preserving malt liquors, which they render more inebriating; it is said that this quality is destroyed by boiling. Both these species may be propagated by seeds or layers. 1. The seeds of the candleberry myrtle we receive from abroad; those of the sweet gale from the bogs where they grow in England or Scotland. The best way is to sow them in boxes of earth from a rich pasture, well broken and fine. They should be sown about half an inch deep; and, when the hot weather comes on, set in the shade. They often remain until the second year before they come up, especially those seeds that come from abroad. If the boxes are set in the shade, and the plants come up, they will require no other trouble the first summer than keeping clean from weeds; in winter they should be removed to a warm hedge or wall, where they may enjoy the benefit of the sun. In the following spring they will come up in plenty. In the beginning of May they should resume their shady situation; and in summer they will require no other trouble than weeding and watering in dry weather. In winter they should be removed into a well-sheltered place; and this may be repeated two years; when in spring they should be taken out of the boxes, and planted in the nursery at about a foot asunder. 2. They may be also easily propagated by layers; for this operation, being performed on the young wood in the autumn, will occasion them to shoot good roots by the autumn following; many of which will be good plants, fit for any place. 3. These plants may likewise be increased by suckers, which many of them often throw out in vast plenty; so that these being taken out the strongest and best rooted may be finally set out; whilst the weaker and those with less root may be planted in the nursery.

M. trifoliata, the trifoliolate myrica, with ternate leaves, toothed on the edges; is a native of the Cape of Good Hope.

MYRIOPHYLLUM, in botany, water milfoil, a genus of the polyandria order, in the monœcia class of plants; natural order fifteenth, inundatæ: MALE CAL. tetraphyllous: cor. none; the stamina eight: FEMALE CAL. tetraphyllous; the pistils four; and four naked SEEDS.

MYRISTICA, the nutmeg tree, in botany, a genus of plants belonging to the class diœcia,

and order syngenesia: MALE CAL. monophyllous, strong, and parted into three laciniæ of an oval shape, and ending in a point: COR. none. In the middle of the receptacle rises a column of the height of the calyx; to the upper part of which the antheræ are attached. They vary in number from three to twelve or thirteen: FEMALE CAL. and COR. as in the male, on a distinct tree. The germen of an oval shape; the style short, with a bifid stigma, the laciniæ of which are oval and spreading.—The fruit is of that sort called drupa. It is fleshy, roundish, sometimes unilocular, sometimes bivalved, and bursts when ripe at the side. The seed is enveloped with a fleshy and fatty membranous substance, which divides the filaments: this, in one of the species, is the mace of the shops. The seed or nutmeg is round or oval shaped, unilocular, and contains a small kernel, variegated on the surface by the fibres running in the form of a screw.

M. fatua, the wild nutmeg: this grows in Tobago, and rises to the height of an apple-tree; has oblong, lanceolated, downy leaves, and hairy fruit: the nutmeg of which is aromatic, but when given inwardly is narcotic, and occasions drunkenness, delirium, and madness, for a time.

M. moschata, the nutmeg-tree, attains the height of thirty feet, producing numerous branches which rise together in stories, and are covered with bark, which on the trunk is a reddish brown, but that on the young branches is of a bright green color: the leaves are nearly elliptical, pointed, undulated, obliquely nerved, on the upper side of a bright green, on the under whitish, and stand alternately upon foot-stalks: the flowers are small, and hang upon slender peduncles, proceeding from the axillæ of the leaves: they are both male and female upon separate trees. The nutmeg has been supposed to be the comacum of Theophrastus, but there seems little foundation for this opinion, nor can it with more probability be thought to be the chrysobalanos of Galen. Our first knowledge of it was evidently derived from the Arabians; by Avicenna it was called *jiausiban*, or *jausiband*, which signifies nut of Banda. Rumphius both figured and described this tree: but the figure given by him is so imperfect, and the description so confused, that Linnæus, who gave it the generic name *myristica*, was unable to assign its proper characters. Sonnerat's account of the muscadier is still more erroneous; and the younger Linnæus, misled by this author, places the *myristica* in the class polyandria, and describes the corolla as consisting of five petals. Thunberg, who examined the flower of the nutmeg, places it in the class monœcia; and according to his description, the male flower has but one filament, surrounded at the upper part by the antheræ; and as the filaments are short and slender, and the antheræ united, this mistake might easily arise. M. de la Marck informs us, that he received several branches of the *myristica* both in flowers and fruit, from the Isle of France, where a nutmeg tree, which was introduced by M. Poivre in 1770, is now very large, and continually producing flowers and fruit. From these branches, which were sent

from M. Cere, director of the king's garden in that island, M. de la Marck has described and figured this and other species of the *myristica* with tolerable accuracy. The kernels, called nutmegs, are well known, and have been long used both for culinary and medical purposes. Distilled with water, they yield a large quantity of essential oil, resembling in flavor the spice itself; after the distillation, an insipid sebaceous matter is found swimming on the water; the decoction inspissated gives an extract of an unctuous, very lightly bitterish taste, and with little or no astringency. Rectified spirit extracts the whole virtue of nutmegs by infusion, and elevates very little of it in distillation; hence the spirituous extract possesses the flavor of the spice in an eminent degree. Nutmegs, when heated, yield to the press a considerable quantity of limpid yellow oil, which on cooling concretes into a sebaceous consistence. In the shops we meet with three sorts of unctuous substances, called oil of mace, though really expressed from the nutmeg. The best is brought from the East Indies in stone jars; this is of a thick consistence, of the color of mace, and has an agreeable fragrant smell: the second sort which is paler colored and much inferior in quality, comes from Holland in solid masses, generally flat, and of a square figure: the third, which is the worst of all, and usually called common oil of mace, is an artificial composition of sebum, palm oil, and the like, flavored with a little genuine oil of nutmeg. When the fruit is ripe, the natives ascend the trees, and gather it by pulling the branches to them with long hooks. Some are employed in opening them immediately, and in taking off the green shell or first rind, which is laid together in a heap in the woods, where in time it putrefies. As soon as the putrefaction has taken place, there spring up a kind of mushrooms, called *boleti moschatyni*, of a blackish color, and much valued by the natives, who consider them as delicate eating. When the nuts are stripped of their first rind they are carried home, and the mace is carefully taken off with a small knife. The mace, which is of a beautiful red, but afterwards assumes a darkish or reddish color, is laid to dry in the sun for the space of a day, and is then removed to a place less exposed to his rays, where it remains for eight days, that it may soften a little. They afterwards moisten it with seawater, to prevent it from drying too much, or from losing its oil. They are careful, however, not to employ too much water, lest it should become putrid, and be devoured by the worms. It is last of all put into small bags and squeezed very close. The nuts, which are still covered with their ligneous shell, are for three days exposed to the sun, and afterwards dried before a fire till they emit a sound when shaken; they then beat them with small sticks to remove their shell, which flies off in pieces. These nuts are distributed into three parcels; the first contains the largest and most beautiful, which are destined to be brought to Europe; the second contains such as are reserved for the use of the inhabitants; and the third contains the smallest which are not quite ripe. These are burnt; and part of the rest is employed for procuring oil by

pressure. A pound of them commonly gives 3 oz. of oil, which has the consistence of tallow, and has entirely the taste of nutmeg. Both the nut and mace, when distilled, afford an essential, transparent, and volatile oil, of an excellent flavor. The nutmegs which have been thus selected would soon corrupt if they were not pickled with lime water made from calcined shell-fish, which they dilute with salt water till it attain the consistence of fluid pap. Into this mixture they plunge the nutmegs, contained in small baskets, two or three times, till they are completely covered over with the liquor. They are afterwards laid in a heap, where they heat, and lose their superfluous moisture by evaporation. When they have sweated sufficiently, they are then properly prepared, and fit for a sea voyage. In the island of Banda the fruit of the nutmeg tree is preserved entire in the following manner: when it is almost ripe, but previous to its opening, it is boiled in water and pierced with a needle. They next lay it in water to soak for ten days, till it has lost its sour and sharp taste. They then boil it gently in a syrup of sugar, to which, if they wish it to be hard, a little lime is added. This operation is repeated for eight days, and each time the syrup is renewed. The fruit when thus preserved is put for the last time into a pretty thick syrup, and is kept in earthen pots closely shut. These nuts are likewise pickled with brine or vinegar; and, when they intend to eat them, they first steep them in fresh water, and afterwards boil them in syrup of sugar. Nutmegs preserved entire are presented as deserts, and the inhabitants of India sometimes eat them when they drink tea. Some use nothing but the pulp; others chew the mace; but they generally throw away the kernel, which is really the nutmeg. Many who perform sea-voyages to the north chew this fruit every morning. The medicinal qualities of nutmeg are esteemed aromatic, anodyne, stomachic, and restraining; and it has been much used in diarrhæas and dysenteries. To many people the aromatic flavor of nutmeg is very agreeable; they however should be cautious not to use it in large quantities, as it is apt to affect the head, and even to manifest a nypnotic power, in such a degree as to prove dangerous. The official preparations of nutmeg are a spirit and essential oil, and the nutmeg in substance roasted, to render it more astringent. Both the spice itself and its essential oil enter several compositions, as the confectio aromatica, spiritus ammoniæ comp., &c. Mace possesses qualities similar to those of the nutmeg, but is less astringent, and its oil is supposed to be more volatile and acid. Nutmeg trees grow in several islands in the Eastern Ocean. The wood-pigeon of the Moluccas is a great planter of these trees. The Dutch long monopolised the trade.

M. sebifera (the *virola sebifera* of Aublet), a tree frequent in Guiana, rising to forty or even to sixty feet high; on wounding the trunk of which a thick, acrid, red juice runs out. Aublet says nothing of the nutmeg's being aromatic; he only observes, that a yellow fat is obtained from them, which serves many economical and medical purposes, and that the natives make candles of it.

MYRMECOPHAGA, the ant-bear, in zoology; a genus of quadrupeds, belonging to the order of bruta: there are no teeth in the mouth; the tongue is long and cylindrical; the head terminates in a long snout or muzzle; and the body is covered with pretty long hair. There are six species, viz.

M. Capensis, the Cape ant-bear, has four claws on the fore paws; a long snout, large pendent ears; and a tail which is shorter than the body, and tapers at the point. It inhabits the country at the Cape of Good Hope. This species is much larger than any other species; Kolbein compares it to the size of a hog, and asserts that it weighs 100 lbs. It burrows in the ground, sleeps during the day, and only goes abroad at night.

M. didactyla, the little ant-bear, has a conic nose bending a little down; ears small, and hid in the fur; two hooked claws on the fore feet, the exterior being much the largest; four on the hind feet; the head, body, limbs, and upper part and sides of the tail, covered with long soft silky hair, or rather wool, of a yellowish-brown color; from the nose to the tail it measures seven inches and a half, the tail eight and a half, the last four inches of which on the under side are naked. It is thick at the base, and tapers to a point. It inhabits Guinea, climbs trees in quest of a species of ants which build their nests among the branches, and has a prehensile power with its tail.

M. jubata, the great ant-bear, has a long slender nose, small black eyes; short round ears; a slender tongue, two feet and a half long, which lies double in the mouth; the legs slender: four toes on the fore feet, five on the hind; the two middle claws on the fore feet very large, strong, and hooked; the hair on the upper part of the body is half a foot long, black mixed with gray; the fore legs are whitish, marked above the feet with a black spot; the tail is clothed with very coarse black hair a foot long: the length from the nose to the tail about four feet; the tail two feet and a half. This animal inhabits South America, and the kingdom of Congo in Africa. It covers itself with its tail when asleep and to guard against rain. Its flesh is eaten by the natives of America. At a distance it has the appearance of a fox, and therefore some travellers have called it the American fox. He has strength sufficient to defend himself from a large dog, or even from the jaquor or Brazilian cat. When attacked, he at first fights on end, and, like the bear, annoys his enemy with the claws of his fore feet, which are very terrible weapons. He then lies down on his back, and uses all the four feet, in which situation he is almost invincible; and continues the combat to the last extremity. Even when he kills his enemy, he quits him not for a long time after.

M. jubata sima is a variety which has a shorter muzzle and shorter legs than the above, and less distance between the eye and ear. The hair on the sides of the body is two inches and a half long, and as hard as that of a wild boar; the color a mixed deep brown and dirty white. The length of the body and head is three feet eleven inches. It inhabits Guinea.

M. pentadactyla, the five-toed ant-eater, has five toes on the fore paws, and a long flat hairy

tail. The head is thick, the upper jaw and snout very long; the hair long, tawny, and striped with black or dusky; the body is thirteen inches long, and ten high; the tail seven.

M. tetradaetyla, the middle ant-bear, has four toes on the fore feet, and five on the hind, with a tail naked at the extremity; the length from the nose to the tail is one foot seven inches, and the tail ten inches. It inhabits South America.

M. tridactyla, the tamandu guaea, or tamanoir, has three toes on the fore feet, five on the hind feet, and long hair on the tail. This animal is about four feet long, and the head and snout about fifteen inches: it is a native of the East Indies, and feeds on ants, &c., in the same manner as the didactyla. All these species have many properties in common with each other, both in their structure and manner. They all feed upon ants, and plunge their tongues into honey and other liquid or viscid substances. They readily pick up crumbs of bread, or small morsels of flesh. They are easily tamed, and can subsist for a long time without food. They run so slowly that a man may easily overtake them in an open field. Their flesh, though its taste be very disagreeable, is eaten by the savages.

MYRMELEO, the ant-lion, in zoology, a genus of insects of the neuroptera order. There are numerous species, of which the most remarkable is,

M. formicarius, the ant-eater. The perfect insect is oblong, and of a brown color. Its head is broad, with two large eyes on the sides, and two antennæ beneath. The neck is rather long, cylindrical, and narrower than the head. The thorax seems composed of two parts; one anterior, whence arise the upper wings; and the other posterior which gives birth to the under ones. The abdomen is of an oblong form, and consists of eight segments; the wings are diaphanous, adorned with a net work of black fibres, charged with several blackish-brown spots. This insect, in its larva state, is very fond of ants, which it hunts after, whence its name. The larvæ proceed from the eggs, which the perfect insect had deposited in very fine dry sand, in a place sheltered from rain, either within a cleft of a wall or of the ground, or at the foot of a wall generally exposed to the south sun. There they are hatched, and make their usual abode. Their color is gray, and their body, which is covered with small protuberances, is of an oval form. The posterior extremity terminates in a point, and is of use to sink down into the sand; for it only walks retrogressively, though furnished with six feet. Before the head is placed a dentated forceps, sharp and hollow within, with which the creature catches and sucks flies and other insects, but especially ants. This forceps serves as a mouth or rostrum, as well as for an offensive weapon. The animal's retrograde march not allowing it to run after the insects on which it is to feed, it uses a stratagem. It dives down into the sand, and, turning about it in a circle, hollows out concentric furrows, gradually deeper and deeper, casting at a distance with its horns the sand it takes from that place. Thus it digs a hole in shape like a funnel, at the bottom of which it takes its station, concealed in the sand.

nothing but the open extended forceps appearing above it. Mischief overtakes every insect that happens to fall into that hole. The myrmeleo, who is apprized of it by the grains of sand rolling down to the bottom, overwhelms him with a shower of dust, which it ejects with its horns, then drags the insect to the bottom of the hole, where it seizes him with its forefeet, and sucks its vitals. It does not even spare other myrmeleons, who in their motions to and fro chance to fall into it. When the larva is come to its full growth, it digs no more holes; it moves backwards and forwards, tracing irregular furrows on the sand, and at length spins itself a cod, shaped like a ball, the outer part of which is formed of the sand in which it lived, and the inward is lined with fine white silk. Within this cod it turns to a chrysalis, which is curved into a semicircle, and wherein may be distinguished all the parts of the perfect insect that is to issue from it. It is more oblong than the larva, but much shorter than the perfect insect. After a certain period the chrysalis casts off its slough, turns to a winged insect, and breaks through the cod in order to take its flight. The perfect insect is very scarce, but is sometimes met with in sandy places, and near rivulets. See *ΕΝΤΟΜΟΛΟΓΙΑ*.

MYRMIDON, *n. s.* *Gr. μυρμηδών.* A soldier; any rude ruffian; so named from the soldiers of Achilles.

The mass of the people will not endure to be governed by Clodius and Curio, at the head of their *myrmidons*, though these be ever so numerous, and composed of their own representatives.

Sicifi.

MYRMIDONES, or **MYRMIDONS**, in antiquity, a people on the south borders of Thessaly who accompanied Achilles to the Trojan war. They received their name from Myrmidon, a son of Jupiter and Eurymedusa, who married one of the daughters of Æolus, son of Helen. His son Aetor married Ægina the daughter of Asopus. He gave his name to his subjects, who dwelt near the river Peneus in Thessaly. According to some, the Myrmidons received their name from their having arisen from ants or pismires, upon a prayer put up for that purpose by king Æacus to Jupiter, after his kingdom had been despoiled by a severe pestilence. According to Strabo, they received it from their industry, because they imitated the diligence of the ants, and like them were indefatigable, and were continually employed in cultivating the earth.

MYRMILLONES, a species of gladiators at Rome, who fought against the Retarii. Their arms were a sword, head-piece, and shield. On the top of the head-piece they wore a fish embossed, called *Μορμυρον*, whence their name is supposed to be derived. The Retarii, in their engagements, made use of a net, in which they endeavoured to entangle their adversaries, and sung during the fight, *Non te peto, piscem peto; quid me fugis, Galle? I am not at thee, but I am at thy fish; why dost thou shun me, O Gaul? The Myrmillones were called Galli, because they wore Gallie armour. They were also named Scutores. They were suppressed by Caligula.*

MYROB'ALAN, *n. s.* Lat. *myrobalanus*. A fruit.

The *myrobalan* hath parts of contrary natures ; for it is sweet, and yet astringent. *Bacon.*

The *myrobalans* are a dried fruit, of which we have five kinds : they are fleshy, generally with a stone and kernel, having the pulpy part more or less of an austere acid taste : they are the production of five different trees growing in the East Indies, where they are eaten preserved. *Hill.*

MYROBALANS, from *μυρον*, ointment, and *βαλανος*, an acorn, are a kind of medicinal fruit brought from the Indies, of which there are five kinds. 1. The citrine of a yellowish-red color, hard, oblong, and the size of an olive. 2. The black, or Indian myrobalan, of the bigness of an acorn, wrinkled, and without a stone. 3. Chelbulic myrobalans, which are of the size of a date, pointed at the end, and of a yellowish-brown. 4. Emblic, which are round, rough, the size of a gall, and of a dark brown. 5. Balleric, which are hard, round, of the size of an ordinary prune, less angular than the rest, and yellow. They are all slightly purgative and astringent.

MYROXYLON, in botany, a genus of the monogynia order, and decandria class of plants : CAL. campanulated ; superior petal larger than the rest ; germ is longer than the corolla ; legum. morospermous. There is but one species, viz.

M. Peruiferum, a native of Peru, and the warmer parts of America. This shrub yields the balsam of Peru, which is extracted from it by coction in water. This balsam, as brought to us, is nearly of the consistence of thin honey, of a reddish-brown color, inclining to black, an agreeable aromatic smell, and very hot biting taste. Distilled with water, it yields a small quantity of a fragrant essential oil of a reddish color, and in a strong fire, without addition, a yellowish red oil. Balsam of Peru is a very warm aromatic medicine, considerably hotter and more acrid than copaiva. Its principal effects are to warm the habit, to strengthen the nervous system, and attenuate viscid humors. Hence its use in some kinds of asthmas, gonorrhœas, dysenteries, suppressions of the uterine discharges, and other disorders proceeding from a debility of the solids, or a sluggishness and inactivity of the juices. It is also employed externally, for cleansing and healing wounds and ulcers, and sometimes against palsies and rheumatic pains. There is another sort of balsam of Peru of a white color, and considerably more fragrant than the former. This is very rarely brought to us. It is said to be the produce of the same plant which yields the common or black balsam, and to exude from incisions made in the trunk, while the former is obtained by boiling. There is also a third kind, commonly called the red or dry. This is supposed to obtain a different state from the white, merely in consequence of the treatment to which it is subjected after it is got from the tree. It is almost as fragrant as the balsam of Gilead, held in so high esteem among the eastern nations. It is very rarely used in Britain, and seldom or never to be met with in our shops.

MYRRH, *n. s.* Arab. *moor* ; Fr. *myrrhe* ; Lat. *myrrha*. A gum.

The *myrrhe* sweet bleeding in the bitter wound.

Spenser.

I dropt in a little honey of roses, with a few drops of tincture of *myrrh*. *Wiseman's Surgery.*

Myrrh is a vegetable product of the gum resin kind, sent to us in loose granules from the size of a pepper-corn to that of a walnut, of a reddish-brown colour with more or less of an admixture of yellow : its taste is bitter and acrid with a peculiar aromatic flavour, but very nauseous : its smell is strong, but not disagreeable ; it is brought from Ethiopia, but the tree which produces it is wholly unknown. Our *myrrh* is the very drug known by the ancients under the same name. *Hill.*

MYRRH is a gummy, resinous, concrete juice, obtained from an oriental tree. It comes to us in globes or drops, of various colors and magnitudes. The best sort is somewhat transparent, friable, in some degree unctuous to the touch ; its reddish yellow color is often streaked internally with whitish semicircular or irregular veins. There are sometimes found among it hard shining pieces, of a pale yellowish color, resembling gum-arabic, of no taste or smell ; sometimes masses of bdellium, darker colored, more opaque, internally softer than the myrrh, and differing from it both in smell and taste ; sometimes an unctuous gummy resin, of a moderately strong somewhat ungrateful smell, and a bitterish very durable taste, obviously different both from those of bdellium and myrrh ; sometimes likewise, as Cartheuser observes, hard compact dark-colored tears, less unctuous than myrrh, of an offensive smell, and a most ungrateful bitterness, so as, when kept for some time in the mouth, to provoke retching, though so resinous that little of them is dissolved by the saliva. Great care is therefore requisite in the choice of this drug. The ancients obtained their myrrh from Ethiopia or Abyssinia. They aromatised their most delicious wines with it ; and it was presented as a very valuable perfume to our Lord while he lay in the manger. It was this gum also which was mingled with the wine given him to drink at his passion, to deaden his pains, and produce a stupor. See Mark xv. 23. The gall mentioned on the same occasion by St. Matthew is probably the same with myrrh ; for any thing bitter was usually distinguished by the name of gall. The Hebrews were accustomed to give those that were executed some stupefying draught. But our Lord refused it in this instance, being resolved to meet death with all its natural horrors. The difficulty which arises from the seeming difference betwixt the two evangelists, by some is solved by saying, that St. Matthew, writing in Syriac, made use of the word *מיר*, which signifies myrrh, bitterness, or gall ; but the Greek translator has taken it for *מויר*, gall. Others will have it that our Saviour's drink was mingled with myrrh, as a stupefying drug ; but suppose that the soldiers, out of wanton cruelty, infused gall ; which was the reason why, when he had tasted, he refused to drink. The ancients reckoned two kinds of myrrh ; the one liquid, which they called *stacte* or *starte* ; the other was solid, and went by the name of troglodyte myrrh. The medical effects of this aromatic bitter are to warm and strengthen the viscera ; it frequently occasions a mild diapho-

resis, and promotes the fluid secretions in general. Hence it proves serviceable in languid cases, diseases arising from simple inactivity, those female disorders which proceed from a cold, mucous, sluggish indisposition of the humors, suppressions of the uterine discharges, cachectic disorders, and where the lungs and thorax are oppressed by viscid phlegm. Myrrh is likewise supposed in a peculiar manner to resist putrefaction in all parts of the body; and in this light stands recommended in malignant, putrid, and pestilential fevers, and in the small pox; in which last it is said to accelerate the eruption. In the present practice myrrh is less employed than formerly. Rectified spirit extracts the fine aromatic flavor and bitterness of this drug, and does not elevate any thing of either in evaporation; the gummy substance left by this menstruum has a disagreeable taste, with scarcely any of the peculiar flavor of the myrrh; this part dissolves in water, except some impurities which remain. In distillation with water, a considerable quantity of a ponderous essential oil arises, resembling in flavor the original drug. Myrrh is the basis of an officinal tincture. It enters the *pilulæ ex aloë et myrrhâ*, the *pilulæ e gummi*, and *pilulæ stomachicæ*, and some other formulæ. But, for obtaining its full effects, it must be given in doses of half a draclun or upwards; and it is thought to be advantageously united with a proportion of nitre, cream of tartar, or some other refrigerant salt.

MYRRH, *STACTE*, was procured by incision, and was received in vessels closely shut. Large pieces sometimes present externally, or contain a kind of oily juice, to which likewise the moderns give the name of *stacte*. To prevent this juice from hardening, or at most in a very small degree, it is sufficient to exclude it from the contact of the air immediately after its issuing from the tree; and by these means its aromatic nature is much better preserved.

MYRRH, *TROGLODITE*, was obtained from a region of Ethiopia, called by the ancient Greeks *Troglodytria*; and reckoned superior to every species of Arabian myrrh, although it was not all of the same quality. Many uncertain and erroneous conjectures and speculations have been formed by Pliny, Theophrastus, Dioscorides, and other ancient writers, respecting this myrrh; as well as by Bruce and other modern authors. But the most probable opinion seems to be, that it was the produce of *Abyssinia*, and that its different qualities depended on the age and soundness of the trees, the season of the year, and the temperature of the air, when the incisions were made in it.

MYRRHINE, *adj.* Lat. *myrrhinus*. Made of the myrrhine stone.

How they quaff in gold,

Crystal and myrrhine cups imbossh with gems

And studs of pearl. *Milton's Paradise Regained.*

MYRRHINE, or MURRINE. See MURRINE.

MYRSINE, in botany, African box-tree, a genus of the monogynia order, and pentandria class of plants: *cor.* semiquinquefid and connivent; germ filling the corolla: BERRY quinquelocular and pentaspermous. Species two; both African plants.

MYRTHIER, or MYRTHIER-TEDVEL. See MERTHYR TYDVILL.

MYRTIS, a Greek woman who distinguished herself by her poetical talents. She flourished about 500 years before the Christian era, and instructed the celebrated Corinna in the rules of versification. Pindar himself, as some report, was also one of her pupils.

MYRTLE, *n. s.* Gr. *μύρτος*; Fr. *myrtle*; Lat. *myrthus*. A fragrant tree sacred to Venus.

There will I make thee beds of roses,
With a thousand fragrant posies;
A cap of flowers, and a girdle
Imbrodered all with leaves of myrtle.

Shakspeare.

I was of late as petty to his ends,
As is the morn dew on the myrtle leaf
To his grand sea. *Id. Antony and Cleopatra.*

Democritus would have Concord like a fair virgin, holding in one hand a pomegranate, in the other a bundle of myrtle; for such is the nature of these trees, that if they be planted, though a good space one from the other, they will meet, and with twining one embrace the other.

Peucham.

Nor can the muse the gallant Sidney pass
The plume of war! with early laurels crowned,
The lover's myrtle and the poet's bay. *Thomson.*

The flower of the myrtle consists of several leaves disposed in a circular order, which expand in form of a rose; upon the top of the foot-stalk is the ovary, which has a short starlike cup, divided at the top into five parts, and expanded; the ovary becomes an oblong umbilicated fruit, divided into three cells, which are full of kidney-shaped seeds.

Miller.

It is not to be considered as the effusion of real passion; for passion runs not after remote allusions and obscure opinions. Passion plucks no berries from the myrtle and ivy.

Johnson.

MYRTLE, in botany. See MYRTUS.

MYRTOOM MARS, a part of the Ægean Sea, lying between Eubœa, Peloponnesus, and Attica. It received this name from Myrto, a woman, or from the island Myrtos, or from Myrtilus, the son of Mercury, who was drowned there, &c. Strabo extends the Mare Myrtoum between Crete, Argia, and Attica. Pausanias, beginning it at Eubœa, joins it at Helena, a desert island, with the Ægean Sea. Ptolemy carries it to the coast of Caria. Pliny says, that the Cyclades and Sporades are bounded on the west by the Myrtoom coast of Attica.

MYRTUS, in botany, the myrtle, a genus of the monogynia order, and icosandria class of plants; natural order nineteenth, hesperidæ: *cal.* quinquefid, superior; there are five petals: BERRY dispermous or trispermous. There are many species; the most remarkable are these:—

1. *M. communis*, the common myrtle-tree, rises with a shrubby, upright, firm stem, branching numerously all around into a close full head, rising eight or ten feet high; very closely garnished with oval, lanceolate, entire, mostly opposite leaves, from half an inch to an inch and a half long, and one broad, on short foot-stalks; and numerous, small, pale flowers from the axillas, singly on each foot-stalk, having diphyllous involucrems; each flower succeeded by a small, oval, dark purple berry. The most material varieties are broad-leaved Roman myrtle, with oval, shining, green leaves, an inch and a half long and one broad; and which is remarkably

floriferous. Gold striped broad-leaved Roman myrtle. Broad-leaved Dutch myrtle, with spear-shaped, sharp pointed, dark green leaves, an inch long, and about three-fourths broad. Double flowered Dutch myrtle. Broad-leaved Jews myrtle, having the leaves placed by threes at each joint; by which particular circumstance this species is in universal estimation among the Jews in their religious ceremonies, particularly in decorating their tabernacles. Orange-leaved Spanish myrtle, with oval spear-shaped leaves, an inch and a half long or more, and one broad, in clusters round the branches, and resemble the shape and color of orange tree leaves. Gold-striped leaved orange myrtle. Common upright Italian myrtle, with its branches and leaves growing more erect, the leaves oval, lanceolate-shaped, acute pointed, and nearly an inch long and half an inch broad. Silver-striped upright Italian myrtle. White-berried upright Italian myrtle. Portugal acute-leaved myrtle, with spear-shaped, oval, acute-pointed leaves, about an inch long. Box-leaved myrtle, with weak branches, small, oval, obtuse, lucid green, closely placed leaves. Striped box-leaved myrtle. Rosemary-leaved myrtle, having erect branches, small, narrow, lanceolate, acute-pointed, shining, green, very fragrant leaves. Silver-striped rosemary-leaved myrtle. Thyme-leaved myrtle, with very small closely-placed leaves. Nutmeg-myrtle, with erect branches and leaves; the leaves oval, acute-pointed, and finely scented like a nutmeg. Broad-leaved nutmeg myrtle. Silver-striped leaved ditto. Cristated or cock's-comb myrtle, frequently called bird's nest myrtle, having narrow sharp-pointed leaves, cristated at intervals. These are all beautiful evergreen shrubs of extraordinary fragrance; exotics originally of the southern parts of Europe, and of Asia and Africa, and consequently in this country requiring shelter of a green-house in winter; all of which, though rather of the small-leaved kind, have their foliage closely placed, remain all the year, and are very floriferous in summer; and, when there is a collection of the different sorts, they afford an agreeable source of variety with each other. They therefore claim universal esteem as principal green-house plants, especially as they are all so easily raised from cuttings, and of such easy culture as to be attainable in every garden where there is any sort of green-house, or garden-frames furnished with glasses for protecting them in winter from frost; but some of the broad-leaved sorts are so hardy as to succeed in the full ground, against a south wall and other warm exposures, all the year, by only allowing them shelter of mats occasionally in severe frosty weather; so that a few of these may also be exhibited in a warm situation in the shrubbery. All the varieties of the *myrtus communis* flower here in July and August; the broad-leaved Roman kind in particular is often covered with flowers, which in some are succeeded here by berries ripening in winter. The flowers of most of the sorts are small, but numerous; and are all formed each of five oval petals and many stamina. As all these plants require protection in this country, they must be kept always in pots,

for moving to the proper places of shelter, according to their nature; the *myrtus communis* and varieties to the green-house in winter; the other delicate kinds to the stove, to remain all the year; therefore let all the sorts be potted in light rich earth; and, as they advance in growth, shift them into larger pots, managing the myrtles as other green-house shrubs, and the stove kinds as other woody exotics of the stove. The leaves and flowers of the common upright myrtle have an astringent quality, and are used for cleansing the skin, fixing the teeth when loosened by the scurvy, and strengthening the fibres. From the flowers and young tops is drawn a distilled water that is detersive, astringent, cosmetic, and used in gargles. A decoction of the flowers and leaves is applied in fomentations. The berries have a binding detersive quality; and the chemical oil obtained from them is excellent for the hair, and used in pomatums and most other external beautifiers of the face and skin. As an internal medicine these berries have little or no merit.

2. *M. pimenta*, pimento, Jamaica pepper, or all-spice tree, grows above thirty feet in height and two in circumference; the branches near the top are much divided and thickly beset with leaves, which by their continual verdure always give the tree a beautiful appearance; the bark is very smooth externally, and of a gray color; the leaves vary in shape and in size, but are commonly about four inches long, veined, pointed, elliptical, and of a deep shining green color; the flowers are produced in bunches or panicles, and stand upon subdividing or trichotomous stalks, which usually terminate the branches; the calyx is cut into four roundish segments; the petals are also four, white, small, reflex, oval, and placed opposite to each other between the segments of the calyx; the filaments are numerous, longer than the petals, spreading, of a greenish-white color, and rise from the calyx and upper part of the germen; the antheræ are roundish, and of a pale yellow color; the style is smooth, simple, and erect; the stigma is obtuse; the germen becomes a round succulent berry, containing two kidney-shaped flattish seeds. This tree is a native of New Spain and the West India Islands. In Jamaica it grows very plentifully; and in June, July, and August, puts forth its flowers, which, with every part of the tree, breathe an aromatic fragrance. The berries, when ripe, are of a dark purple color, and full of a sweet pulp, which the birds devour greedily, and, muting the seeds, afterwards propagate these trees in all parts of the woods. It is thought that the seeds passing through them in this manner undergo some fermentation, which fits them better for vegetating than those gathered immediately from the tree. The pimento is a most beautiful odoriferous evergreen, and exhibits a fine variety in the stove at all seasons. It flowers with great beauty and luxuriance. It should be potted in rich light earth, and remain always in the stove. It was first introduced and cultivated in this country by Mr. Philip Miller in 1739. Pimento berries were chiefly imported into Britain from Jamaica; whence the name Jamaica pepper. It is also

called all-spice, from its taste and flavor being supposed to resemble those of many different spices mixed. When the berries arrive at their full growth, but before they begin to ripen, they are picked from the branches, and exposed to the sun for several days, till they are sufficiently dried; this operation is to be conducted with great care, observing that on the first and second day's exposure they require to be turned very often, and always to be preserved from rain and evening dews. After this process is completed, which is known by the color and rattling of the seeds in the berries, they are put up in bags or hogsheads for the market. This spice, which was at first brought over for dietetic uses, has been long employed in the shops as a succedaneum to the more costly oriental aromatics; it is moderately warm, of an agreeable flavor, somewhat resembling that of a mixture of cloves, cinnamon, and nutmegs. Distilled with water it yields an elegant essential oil, so ponderous as to sink in the water, in taste moderately pungent, in smell and flavor approaching to oil of cloves, or rather a mixture of cloves and nutmegs. To rectified spirit it imparts, by maceration or digestion, the whole of its virtue; in distillation it gives over very little to this menstruum, nearly all its active matter remaining concentrated in the inspissated extract. Pimento can scarcely be considered as a medicine; it is, however, an agreeable aromatic, and on this account is not unfrequently employed with different drugs, requiring such a grateful adjunct. Both the pharmacopœias direct an aqueous and spirituous distillation to be made from these berries, and the Edinburgh College orders also the oleum essentialis piperis Jamaicaensis. See PIMENTO.

MYSELF, *n. s.* My and self. An emphatical reflective word added to I; as I myself do it, that is, not I by proxy.

As his host,

I should against his murderer shut the door,
Not bear the knife myself. *Shakspeare. Macbeth.*

Myself shall mount the rostrum in his favour,
And try to gain his pardon. *Addison.*

They have missed another pain, against which
I should have been at a loss to defend myself.

Swift's Examiner.

But just as he began to tell,
The auld kirk-hammer strak the bell
Some wee short hour ayont the twal,
Which raised us baith:

I took the way that pleased myself,
And sae did Death.

Burns.

MYSIA, a country of Asia Minor, generally divided into Major and Minor.

MYSIA MAJOR had Eolia on the south, the Ægean Sea on the west, and Phrygia on the north and east. Its chief cities were Cyzicum, Lampsacus, &c.

MYSIA MINOR was bounded on the north and west by the Propontis and Bithynia, and Phrygia on the north and south borders.

MYSIANS, the inhabitants of Mysia. They were once very warlike, but they greatly degenerated, and the words Mysorum ultimus were emphatically used to signify a person of no merit. The ancients generally hired them to attend their

funerals as mourners. They were once governed by monarchs, and were supposed to be descended from the

MYSIANS of Europe, a nation who inhabited that part of Thrace which was situated between Mount Hæmus and the Danube.

MYSLÉNICE, a district of Western or Austrian Poland bounded by Cracow on the north, Silesia on the west, and Hungary south. It contains 1230 square miles, and about 160,000 inhabitants. Besides the Vistula, it is watered by the less rivers Sola, Skawa, and Itaba. The soil is very fertile, but by no means well cultivated.

MYSOL, one of the first of the Papua Islands west of New Guinea, and in part dependent on the Moluccas. It is also called Mixoal, and is fifteen leagues east of Ceram, and fourteen leagues long east and west; it has the good harbour of Efbe, formed by a little island on the south. Pulo Popo and Geby are islands of some size north-west of Mysol, and in the Gillolo passage. Birds of paradise frequent this island, and are caught by the Mahometan settlers on the coast with bird lime. The black loorg, a scarce oriental bird, is also found here.

MYSON, a native of Sparta, one of the seven wise men of Greece. When Anacharsis consulted the oracle of Apollo, to know which was the wisest man in Greece, he received for answer, he who is now ploughing his fields. This was Myson.

MYSORE, or **MAISOOR**, is a large province of the south of India, situated chiefly between 11° and 15° N. lat., and now surrounded by the British territories, of the Madras presidency: while the existing rajah is also dependent on British protection. This province consists of high table land generally 3000 feet above the level of the sea, from which rise a number of hills, containing the sources of the Cavry, Toombuddra, Vedewati, Bhadri, Penar, &c. The climate is temperate and healthy; and the rainy season more moderate, while much longer, than on either of the sea coasts: during other seasons of the year the province is frequently refreshed by showers. Its soil is rich in all the grains and vegetables of India, and many of the fruits of Europe flourish here; the cultivation being much aided by judicious irrigation. The inhabitants are Hindoos. The annual produce consists in horses, cattle, sheep, and swine, all of them of small size. The Mysore is divided into the three districts of Patna, Nagara, and Chatrakal; each managed by an amildar, or officer of justice, police, and revenue.

The ancestor of the present restored family is said to have been a principal herdsman, who emigrated with his followers and their flocks from the province of Gujerat. The first person known in history to have distinguished himself was named Vijaya. He married the heiress of the Wadiar, or chief of the town of Carogully and its dependencies, and succeeded his father-in-law. His successors for a period of some length are not known; but in the year 1507 Cham Raj I. took possession of the government, acknowledging himself a subject of the Maha Rajah of Anagondy, a descendant of the ancient Hindoo

monarchs of Bijanagur. Tim Raj succeeded in 1548, and annexed other districts to his government. His successor from 1571 to 1576 was Heere Cham Raj, who was succeeded by his cousin Raj Wadeyar. This chief annexed to his own province that of the rajah of Chickraipatam, and took in 1610 possession of the city and fortress of Seringapatam. This event is considered as the era of the Mysore sovereignty.

He afterwards subdued several neighbouring Wadeyars, and imprisoned them at Seringapatam. He was succeeded in 1617 by his grandson Cham Raj II., who added considerably to the Mysore territory, and died in 1637. In 1659 reigned Canty Revy Larsa Raj, the first prince who established a mint, and coined the fanams and pagodas which still go by his name. His successors were Dud Deo Raj who died in 1672, and Chick Deo Raj who died in 1704, having completed the subjugation of the landholders, and made a number of prudent regulations which still exist. Among other accessions he acquired by purchase the town and fortress of Bangalore, and sent an embassy to the Mogul emperor Aurungzebe, who granted him permission to sit on an ivory throne, still in existence and used on the late installation of Tippoo Saib's successor. Canty Raj, son of the last sovereign, though born deaf and dumb, mounted the throne in 1704. It was in this reign that the great influence of the Dulwoy or prime minister commenced, which rendered the rajah ever afterwards a mere pageant. After a nominal reign of ten years this rajah was succeeded by Dud Kishen Raj, who died, after an inglorious reign, in 1731. He was succeeded by Cham Raj III., who was deposed and imprisoned in the year 1734. On this event, the ministers of Mysore chose a boy of five years old, of another branch of the royal family, named Chick Kishen Raj, to be their nominal chief. The public business was entirely managed in the offices of, 1st, The Dulwoy or commander-in-chief; 2dly, the Serv Adikar, or comptroller of the revenue; and 3dly, the Purdhan or privy counsellor. Under the command of Nunjeraje Dulwoy, a large Mysorean army marched to the assistance of the British, and their ally the Nabob Mohammed Aly, in 1753; but as the bribe held out for his assistance (the cession of the fortress of Trichinopoly) was not complied with, he soon became our enemy, and for nearly two years laid siege to Trichinopoly. Mysore was now invaded by the Mahrattas, and from this period may be dated the decline of the old power of Mysore, or rather the downfall of the Hindoo dynasty, and the rise of Hyder Aly and his successor.

The great-grandfather and grandfather of this prince were religious persons, who emigrated from the Punjab and settled in the vicinity of the tomb of Geeso Doraz, a famous saint. His father was named Futeh Aly, and, having entered the army as a private soldier, he rose by degrees to the rank of Naick, or commander of a regiment. He was killed in an engagement about the year 1729. The widow, accompanied by her two sons Shabaz Saheb, and Hyder, boys, took refuge with her brother Ibrahim, who commanded a small body of peons or infantry, in the ser-

vice of the Bangalore government; and, the elder brother Shabaz having attained a sufficient age, his uncle procured for him a recommendation to an officer of rank in Seringapatam. Here he gradually rose to the command of 200 cavalry and 1000 infantry. Hyder, profiting by the good fortune of his brother, does not however appear to have distinguished himself till the year 1749, when, during the siege of Deonhally, he attracted the attention of the Dulwoy Nunjeraje; and was promoted on the capitulation of the place to the command of its garrison. Permission was also granted him to augment the number of troops. During a war between the Nizam Nasi Jung, and Muzuffir Jung, in the year 1750, Hyder commanded part of the Mysore troops; he was again employed at the siege of Trichinopoly; and during the battle of the 17th of August 1754, between the British and French, with their allies, Hyder attacked and seized a large part of the baggage of the British.

In 1758 a mutiny having broken out amongst the troops of his sovereign at Seringapatam, Hyder Aly was ordered to march thither; and, having succeeded in quelling the revolt and disbanding the army, the fortress and adjoining district of Bangalore were given him as a personal estate. In the following year he was invested with the command of all the troops employed against the Mahrattas, and returned in triumph to Seringapatam. His reception at court by the young rajah and his ministers was most gracious; and he was distinguished by the title of Behauder (the champion), which he ever after retained. In the month of May, 1760, Hyder was induced by the intrigues of the French to detach to their assistance almost the whole of the regular army then at Seringapatam; and now whilst he continued to reside at a short distance from the city, with a guard of only 100 horse, and a battalion of infantry, the mother of the rajah, a woman of considerable talent, weary of his tyranny, entered into a secret treaty with the Mahrattas to depose him from his command. The force of the chief she selected for her confidence was encamped on the frontiers, and he agreed to send, on an appointed day, 6000 chosen horse to her assistance; but owing to an unforeseen procrastination, and a precipitate attack from the foot, on the cantonment of Hyder, he effected his escape with his cavalry to Bangalore. This was in August 1760. Immediately he sent off to recal the army from the Carnatic, under the command of his brother-in-law Mukhdum Sahib; and despatched orders to other detachments of his troops to join him without loss of time. What was of greater consequence, he was soon also joined by 200 French European cavalry, and 100 infantry, with some light artillery. With these forces he defeated the Mysore troops in several engagements, and in May 1761 obtained possession of the person of the rajah. Possessing now all the real power of a sovereign, Hyder by means of presents and intrigue procured from the Nizam of the Dekhan a grant of the zemindary of Mysore, with a patent constituting him a heft bazary, or commander of 7000 horse in the imperial service, and the title of Nabob Hyder Aly Khan Behauder. In 1763 he conquered Bednoor, Soonda,

and Canara; and in the three succeeding years Calicut and Malabar. In 1766 the rajah died; and though his son was advanced nominally to the throne, as well as *his* son, from whom the existing rajah is descended, Hyder in reality exercised from this period the whole sovereignty of Mysore, and conducted that series of able efforts against the British, and his other enemies, already detailed in our article INDIA.

MYSOORE, or MAISOOR, a considerable town of the south of India, capital of the province bearing this name, is situated about nine miles from Seringapatam, on the top of a high hill. It was formerly called Pooragurry; but, in the middle of the sixteenth century, was much improved by one of the rajahs, and its name changed to Mahesh Ajaoor, shortened to Maisoor. In 1593 it was taken by the sovereign of Bejapore and held for a short period. Soon after this the seat of government was transferred to Seringapatam; but the fortress here was still kept in repair. In 1759 the expelled Dulwoy Nunjeraje got pos-

session of Mysore, and retained it for three months, in despite of the efforts of Hyder Aly. In 1787 Tippoo Sultan ordered the fort and town to be levelled with the ground, and the materials to be used in erecting another fortress on a neighbouring height. The town was in consequence destroyed, and the inhabitants compelled to emigrate; but the new situation called Nuzerbar having been found destitute of water, and the events of the war of 1799 having caused a new revolution, the materials which had been removed were brought back, and employed in rebuilding the palace of the young rajah. The town, now the seat of government, is about a mile in length, and continues to increase yearly. It is well supplied with water and provisions, and is considered a comparatively healthy place. Long. 76° 52' E., lat. 12° 16' N.

MYSTAGOGUE, *n. s.* Gr. *μυσταγωγός*; Lat. *mystagogus*. One who interprets divine mysteries; or one who keeps and exhibits church relics.

M Y S T E R I E S.

MYSTERY, *n. s.*

MYSTERIANT,

MYSTERIOUS, *adj.*

MYSTERIOUSLY, *adv.*

MYSTERIOUSNESS, *n. s.*

MYSTERIZE, *v. a.*

Fr. *mystere*; Lat. *mysterium*; Greek *μυστηριον*, a secret. Strictly, that which is partly revealed and partly secret;

something profound beyond comprehension; an enigma; any thing artfully made difficult; a trade or calling, so called, as Warburton thinks, from Fr. *mestier*: a mystierian was one who presided over the ancient mysteries: to mystierise is, to explain mysteries or enigmas; the other words follow the senses of mystery.

And that which is the noblest *mysterie*,
Brings to reproach and common infamy.

Spenser.

They can judge as fitly of his worth,
As I can of those *mysteries* which heaven
Will not have earth to know.

Shakspeare. Coriolanus.

To thy great comfort in this *mystery* of ill opinions,
here's the twin brother of thy letter.

Id. Merry Wives of Windsor.

Instructions, manners, *mysteries*, and trades,
Degrees, observances, customs, and laws,
Decline to your confounding contraries.

Shakspeare.

Holy *mysteris* [must be studied] with this caution,
that the mind for its module be dilated to the amplitude of the *mysteris*, and not the *mysteris* be straitened and girt into the narrow compass of the mind.

Bacon.

Upon holy days, let the matter of your meditations be according to the *mystery* of the day; and, to your ordinary devotions of every day, add the prayer which is fitted to the *mystery*.

Taylor.

Our duty of preparation contained in this one word, try or examine, being after the manner of *mysteris*, *mysteriously* and secretly described, there is reason to believe that there is in it very much duty.

Id. Worthy Communicant.

My purpose is, to gather together into an union all those several portions of truth, and differing apprehensions of *mysteriousness*.

Id.

Then the true Son of knowledge first appeared,
And the old dark *mysterious* clouds were cleared.

Denham.

God at last

To Satan, first in sin, his doom applied,
Though in *mysterious* terms.

Milton's Paradise Lost.

Each stair *mysteriously* was meant.

Milton.

Mysterizing their ensigns, they make the particular ones of the twelve tribes accommodable unto the twelve signs of the zodiack.

Broune's Vulgar Errors.

There often fall out so many things to be done on the sudden, that some of them must of necessity be neglected for that whole year, which is the greatest detriment to this whole *mystery*.

Evelyn's Kalendar.

Important truths still let your fables hold,
And moral *mysteris* with art unfold.

Granville.

Those princes who were distinguished for *mysterious* skill in government, found, by the event, that they had ill consulted their own quiet, or the happiness of their people.

Swift.

If God should please to reveal unto us this great *mystery* of the Trinity, or some other *mysteris* in our holy religion, we should not be able to understand them, unless he would bestow on us some new faculties of the mind.

Id.

A proper secrecy is the only *mystery* of able men; *mystery* is the only secrecy of weak and cunning ones.

Chesterfield.

MYSTERY is derived from the Greek *μυστηριον*, and in its modern acceptation imports something above human intelligence, something awfully obscure and enigmatical; any thing artfully made difficult; the secret of any business or profession. The word is often used by the founder of the Christian religion, and more frequently by his apostles, especially St. Paul. In these cases it generally signifies those doctrines of Christianity which the Jews, prior to the advent of the Messiah, either could not or did not un-

derstand. The Trinity in Unity, and the Unity in Trinity; the incarnation of the Son of God; the union of two natures in one and the same person, &c., we generally call mysteries, because they are above human comprehension. But our intention in this article is to lay before our readers an account of those *ἄπορρητα*, or secret rites of the pagan superstition, which were carefully concealed from the knowledge of the vulgar, and which are universally denominated mysteries.

The word *Μυστηριον* is evidently deduced from *Μυστηρ*; but the origin of this last term is not altogether so obvious. The etymologies of it exhibited by the learned are various; some of them absurd. The mysteries were imported into Greece from the East. In those regions, then, we ought to look for the etymology of the word *Mistar*, or *mistur* (Heb. מִסְתָּר,) signifies any place or thing hidden or concealed. *Mistur* is therefore, probably, the root of the word *Μυστηρ*, *myster*.

The avarice and ambition of the pagan priests doubtless gave birth to the institution of mysteries. The ministers of that superstition alleged that some articles of their ritual were too profound to be understood by the vulgar; others too sacred to be communicated to men in a situation subordinate or contemptible. Things sacred and venerable, they alleged, would contract a taint and pollution by an intercourse with untutored souls. These were the ostensible motives for making that odious distinction between the popular religion, and that contained in the sacred and mysterious ritual. Of all the legislators of antiquity, the Cretan alone was prudent enough to see the absurdity of this, and to adopt a more liberal plan. Diodorus the Sicilian informs us, that the mysteries of Eleusis, Samothracia, &c., which were elsewhere buried in profound darkness, were among the Cretans taught publicly, and communicated to all the people. Minos, however, was a successful legislator, and his pretended intercourse with Jupiter Idæus extended his influence and established his authority. He was therefore not under the necessity of calling in the mysteries to his assistance.

Mysteries were the offspring of Egyptian priestcraft. They were instituted with a view to aggrandise that order of men, to extend their influence, and to enlarge their revenues. To accomplish these objects they applied every engine to besot the multitude with superstition and enthusiasm. They taught that themselves were the distinguished favorites of heaven, and that celestial doctrines had been revealed to them, too holy to be communicated to the profane vulgar, and too sublime to be comprehended by them. After the mysteries were instituted, and had acquired a high reputation, legislators, magistrates, judges, and monarchs, joined in the imposture, with the same views. Priests and princes were actuated by the same spirit. The combination was equally advantageous to both.

The celebrated Mosheim is of opinion, that the mysteries were entirely commemorative; that they were instituted to preserve the remembrance of heroes and great men, who had been deified

in consideration of their martial exploits, useful inventions, public virtues, and the benefits conferred on their contemporaries. In opposition to this singular opinion, it may be urged, that the method of preserving the memory of great and illustrious men, generally adopted, was the establishing festivals, celebrating games, offering sacrifices, singing hymns, dancing, &c. We can discover no secret mysteries instituted for that purpose, at least in their original intention. The mysteries were performed in secret; they were intended to be communicated only to a few; of course, had they been instituted to immortalise the memory of heroes and great men, the authors would have acted the most foolish and inconsistent part imaginable. Instead of transmitting the fame of their heroes with eclat to posterity, they would thus have consigned it to eternal oblivion.

The mysteries were therefore the offspring of bigotry and priestcraft; they originated in Egypt, the native land of idolatry. In that country the priesthood ruled predominant. The kings were engrafted into their body before they could ascend the throne. 'They were possessed,' says Diodorus, 'of a third part of all the land of Egypt. All the orientals, but especially the Egyptians, delighted in mysterious and allegorical doctrines. Every maxim of morality, every tenet of theology, every dogma of philosophy was wrapt up in a veil of allegory and mysticism. This propensity conspired with avarice and ambition to dispose them to a dark and mysterious system of religion.' 'The Egyptians,' says Plutarch, 'were a gloomy race of men; they delighted in darkness and solitude. Their sacred rites were generally celebrated with melancholy airs, weeping, and lamentation. This gloomy bias must have stimulated them to a congenial mode of worship.'

The rites of Osiris were performed with loud shrieks and lamentations when he was put into the coffin; and with the most extravagant mirth when he was raised from the dead, or supposed to be found again. Their hymns were always composed in melancholy affecting strains: and consisted of lamentations for the loss of Osiris, the mystic flight of Bacchus, the wandering of Isis, and the sufferings of the gods. The Canaanites, who were a kindred tribe of the Mizraim or Egyptians, imitated them in their sacred rites. At Byblus, Berytus, Sidon, and Tyre, they used mournful dirges for the death of Adonis or Tammuz, who was the same with the Egyptian Osiris, i. e. the sun. The Egyptians then instituted a mode of worship congenial with their natural gloomy disposition. The recess of the sun towards the southern hemisphere was the death of Osiris; the wanderings of Isis, in search of her husband and brother, allegorically imported the longings of the earth for the return of the fructifying influences of the solar heat. When that luminary returned towards the summer solstice, and grain, trees, fruits, herbs, and flowers, adorned the face of nature, another festival was celebrated of a different complexion. All Egypt was dissolved in the most extravagant mirth and jollity. During the celebration of those festivals, the priests formed allegorical re-

presentations of the sun and the earth. They personified both, and allegorised their motions, aspects, relations, accessions, recesses, &c., into adventures, peregrinations, sufferings, contests, battles, victories, defeats, &c. These, in time, were held as real occurrences, and became essential articles of the popular creed. From this source were derived the conquests of Dionysias or Bacchus, so beautifully exhibited by Nonnius in his Dionysiacs; the wanderings of Io, afterwards adorned by Æschylus, &c.

Whether the Egyptians deified mortal men in the earliest ages has been much controverted. Jablonski endeavours to prove the negative. Plutarch tells us that Isis, Osiris, Horus, Anubis, and Typhon, were once mortal persons, who were exalted into demons after their death. Diodorus, in his history of Isis and Osiris, Pan, Hermes, &c., represents them as human personages; and says that the Egyptians imagined that after their decease they transmigrated into stars. From these authorities we may believe that the Egyptians deified those who had distinguished themselves by prowess, wisdom, arts, and inventions. This was a constant practice among the Greeks. The exploits of those heroes had been disguised by allegorical traditions. They had been magnified beyond all dimensions, to astonish and intimidate the vulgar, and to gratify their propensity towards the marvellous. All these secrets were developed in the mysteries. The catechumens were informed of every particular relating to the birth, the life, the exploits, the adventures, misfortunes, and decease, of those heroic personages. The magicians of Egypt were abundantly qualified for exhibiting angels in machines. The souls of virtuous men, who had not been eminent enough to merit the honor of deification, were shown in all the perfection of Elysian felicity; and the souls of tyrants, and of the children of Typhon (the evil spirit of the Egyptians), were shown in Tartarus, suffering all the extremes of infernal punishment. From these exhibitions the mystagogues took occasion to read their pupils suitable lectures on the happy tendency of a virtuous conduct, and the misery consequent upon a contrary course. They set before them immortal renown, deification, and elysium, on the one hand, and eternal infamy and misery on the other. This may be deemed the chief advantage accruing from this institution.

The catechumens were also taught many secrets of physiology. This Pharnutus every where affirms, especially in his last book *De Nat. Deor.*, towards the end. Plutarch, too, says that most of the Egyptian fables were allegorical details of physical operations. Eusebius acquaints us that the physiology, not only of the Greeks, but likewise that of the barbarians, was nothing but a science of nature, a concealed and dark theology, involved in fable, whose hidden mysteries were so veiled over with allegories, that the ignorant million were as little capable of comprehending what was said, as what was suppressed in silence. Dionysius of Halicarnassus says that the fables of the Greeks detail the operations of nature by allegories. Proclus makes the same observation. The Egyptians, says he, taught the latent operations of nature by fables. These physiological

secrets were expounded to the initiated; and that the Egyptian priests were deeply skilled in physiological science cannot be disputed. But the vulgar were excluded from all those secrets which were reserved for the nobility and sacerdotal tribes.

The original subjects of these institutions were the articles specified above: but, in process of time, numerous new rites, ceremonies, usages, and even doctrines, were superinduced, which were utterly unknown to the original hierophants. Their subjects were at first simple and easy to be comprehended; in time they became complex, intricate, and unintelligible. To celebrate those mysteries with the greater secrecy, their temples were so constructed as to favor the artifice of the priests. The fanes, in which they performed their rites and ceremonies, were subterraneous apartments, constructed in such a manner that every thing that appeared in them breathed an air of solemn secrecy. Their walls were covered with hieroglyphic paintings and sculpture, and the altar was situated in the centre of the apartment. Modern travellers have discovered vestiges of them; and Shaw, Pococke, Belzoni, and others, describe those dark abodes. In those subterraneous mansions, which the priests had planned with the most consummate skill, the kings, princes, and great men of the state, encountered the dangers and hardships contrived to prove their prudence, fortitude, patience, abstinence, &c. These were appointed to try their merit; and by these the hierophants decided whether they were duly qualified. Upon such occasions those magical tricks were exhibited, for which the magicians of Egypt were so much celebrated. The strange and terrifying sights, the alternate successions of light and darkness, the hideous spectres, the frightful howlings re-echoed by these infernal domes, the scenes of Tartarus and Elysium, exhibited alternately and in quick succession, must have made a deep and lasting impression on the mind of the affrighted votary.

From the scenes exhibited in the Egyptian mysteries, especially those of Isis and Osiris, the Greeks seem to have copied their ideas of the infernal regions, and the subterraneous mansions of departed souls. Many colonies of Egyptians settled in Greece. From these the *αοιδοι*, or early bards of Greece, learned them imperfectly. Of course we find Homer's account of the infernal regions, and of the state of departed souls, lame and incoherent. Succeeding bards obtained more distinct information. Euripides, Aristophanes, Plato, &c., paved the way for Virgil, who borrowed his ideas from all of them. These, under his hand, in the sixth Æneid, grew into a system beautiful, regular, uniform, and consistent. The materials were created to his hand; he had only to collect, polish, arrange, and connect them.

Every god and goddess of Egypt respectively had their mysteries; but, as those of Isis and Osiris were the most celebrated, they became principal objects of pursuit, as well as of imitation, to the neighbouring nations. These were carried into Persia by Zoroastres, or Zerdusht, and consecrated to Mithras. Orpheus imported

them into Thrace; Cadmus brought them into Bœotia, where they were sacred to Bacchus. Inachus established them at Argos in honor of Juno; Cyniras in Cyprus, where they were dedicated to Venus. In Phrygia they were sacred to Cybele, the mother of the gods. This progress of the mysteries is rendered the more probable, when we consider that a great part of Greece was planted with colonies from Egypt, Phœnicia, Palestine, &c. Orpheus, if not an Egyptian, was at least of oriental extraction. Inachus, Cadmus, and Melampus, are universally allowed to have been Egyptians. Erichtheus, in whose reign the Eleusinian mysteries were established, was an Egyptian by birth, or sprung from Egyptian ancestors. The Egyptians, then, in those early ages, did not view the Greeks in the light of aliens, but as a people nearly related, either to themselves, or their brethren the Phœnicians. Although every particular deity had his own peculiar mysterious sacred rites, yet Mithras, Osiris, and Ceres, were deemed the most august, and were universally worshipped.

Mithras, or, according to the Persian, Mihr, was one of the great gods of the Asiatics. His worship was for many ages confined to Persia. Afterwards it was propagated so far and wide, that some have imagined they have discovered vestiges of it even in Gaul. Mihr, according to Dr. Hyde, signifies love, and likewise the sun. It is by others reckoned a cognate of the Hebrew word *muthir*, excellence. Mithras was the sun among the Persians; and in honor of that luminary this institution was established. Mithras, according to Plutarch, was the middle god between Oromaz and Ahriman, the two supreme divinities of Persia. But the fact is, that the solar planet was the visible emblem of Oromaz, the good genius of the Persian tribes, and the same with the Osiris of the Egyptians. The grand festival of Mithras was celebrated six days, in the middle of the month Mihr, which began September 30th, and ended October 30th.

Zoroaster worshipped Mithras, or the sun, in a certain natural cave, which he formed into a temple, where Mithras was represented as presiding over the lower world with all the pomp of royal magnificence. In it were the symbols of Mithras and of the world, philosophically and mathematically exhibited. Mithras was sometimes represented as mounted on a bull, which he kills with a sword. On some bass reliefs still existing, he appears as a young man with his tiara turned upward, clothed with a short tunic and breeches, after the Persian fashion, or with a small cloak. Over the cave were seen the chariots of the sun and moon, and divers constellations. In one of those caves the ceremonies of initiation were performed; but, before the candidate could be admitted, he was forced to undergo a course of probationary exercises, so numerous, and so rigorous, that few had courage and fortitude to go through them. He was obliged to live a life of virtue and abstinence for seven years previous to his initiation. Some months before it, he was obliged to submit to an austere fast of fifty days. He was to retire several days to a deep and dark dungeon, where he was successively exposed to all the extremes of

heat and cold. Meantime he frequently underwent the *bastinado*, which the priests applied without mercy. Some say this fustigation continued two whole days, and was repeated no fewer than fifteen times. In the course of these probationary exercises the candidate was generally reduced to a skeleton; and some actually perished in the attempt.

Upon the eve of the initiation, the aspirant braced on his armour, to encounter giants and savage monsters. In those spacious subterraneous mansions a mock hunting was exhibited. The priests, and all the subordinate officers, transformed into lions, tigers, leopards, bears, wolves, &c., assailed him with loud howlings, roaring, and yelling, and every instance of ferine fury. In these mock combats the hero was often in danger of being really worried, and always came off with bruises and wounds. Lampridius informs us that, when the emperor Commodus was initiated, he killed one of the priests who attacked him in the form of a wild beast. The Persians worshipped Mithras by a perpetual fire: hence the votary was obliged to undergo a fiery trial, by passing seven times through the sacred fire, and each time plunging himself in cold water. Some have made these probationary penances amount to eighty; others only to eight. The candidate, having undergone all these torturing trials with fortitude, was declared a proper subject for initiation. But, before his admission, he was to bind himself by the most horrible oaths and imprecations, never to divulge an article of all that should be communicated to him.

What *απορρητα* or ineffable secrets were imparted to the initiated it is impossible to discover. But we may rest assured, that the traditions concerning the origin of the universe; the nature, attributes, perfections, and operations, of Oromazes; the baleful influences of Ahriman; and the benign effects of the government of Mithras, were unfolded and inculcated. The phenomena of nature, discovered by the magi, were also exhibited; and the application of their effects, to astonish and delude the vulgar, were taught. Virtue was warmly recommended, and vice represented in the most frightful colors. These initiations are mentioned by Lampridius, Justin, and Tertullian. The last of these speaks of a kind of baptism, which washed from the souls of the initiated all the stains they had previously contracted; and mentions a particular mark which was imprinted upon them. There was presented to the initiated a crown suspended on the point of a sword; but they were taught to say, Mithras is my crown; to intinate that they looked upon the service of that deity as their chief honor.

After the Teletæ, or rites which confer perfection, were finished, the pupil was brought out of the cave or temple, and with great solemnity proclaimed a Lion of Mithras; a title which imported strength and intrepid courage in the service of the deity. They were now consecrated to the god, and were supposed to be under his immediate protection; which animated them to the most daring enterprises. The worship of Mithras was introduced into the Roman empire towards the end of the republic, where it made

very rapid progress. When Christianity began to make a figure in the empire, the champions for paganism proposed the worship of this power of benevolence, to counterbalance that worship which the Christians paid to Jesus Christ, the true Sun of righteousness. But this mode was soon abolished, together with the other rites of paganism. The Persian grandees affected names compounded with Mithras: hence Mithridates, Mithrobarzanes, &c. Hence, too, the precious stone called Mithridat, which by the reflection of the sun sparkled with a variety of colors. (Solinus, c. x.) There is likewise a certain pearl, of many different colors, which they call Mithras. It is found among the mountains near the Red Sea; and, when exposed to the sun, it sparkles with a variety of dyes. We likewise find a king of Egypt of that name who reigned at Heliopolis; who, in consequence of a dream, erected an immense obelisk to the Sun, near that city. The votaries of Mithras pretended that he was sprung from a rock, and that therefore the place where the mysterious ceremonies were communicated to the initiated was always a cave. Many reasons have been assigned for the origin of this rockborn deity. Dr. Doig of Stirling supposes that, as 'a rock is the symbol of strength and stability, the dominion of Mithras, in the opinion of his votaries, was firm as a rock, and stable as the everlasting hills.' Mr. Bryant, in his Analysis of Mythology, discusses this point with deep research.

D'Anquetil briefly delineates the functions of this deity. 'The peculiar functions of Mithras are to fight continually against Ahriman and the impure army of evil genii, whose constant employment is to scatter terror and desolation over the universe; to protect the frame of nature from the demons and their productions. For this purpose he is furnished with 1000 ears and 1000 eyes, and traverses the space between heaven and earth, his hands armed with a club or mace. Mithras gives to the earth light; to men, corn, pastures, and children; maintains harmony upon earth, watches over the law,' &c.

The original Dionysius or Bacchus was the Osiris of the Egyptians, or the Sun. The Greek name of that deity is plainly oriental, being compounded of *δῆ*, bright; and *nasia* or *nasa*, in the Æolic dialect *νῆσα*, a prince. Herodotus tells us, that Osiris is Dionysius in the Greek language: Martianus Capellus expresses the same idea. The name Osiris has much embarrassed critics and etymologists. The learned Jablonski has taken much pains to investigate the etymology of it. If it is granted that the Hebrew and Egyptian tongues are cognate dialects, it is the Chosher or Oshir of the former, which imports, to make rich. The term Osiris was applied both to the sun and to the Nile; both which by their influence contributed respectively to enrich and fertilise the land of Egypt. *Joh*, or *Io*, was the name of the moon.

In the earliest periods of the Egyptian monarchy there appeared two illustrious personages. Osiris and Isis, the children of Cronus; and they were married, according to the custom of the Egyptians. As the brother and husband had assumed the name of the Sun; so the sister

and consort took that of Isis, that is, the woman, a name which the Egyptians applied both to the moon and to the earth. Osiris having left Isis regent, with Hermes as her prime minister, and Hercules as general of her armies, quitted Egypt with a numerous body of troops, attended by companies of fauns, satyrs (men and women in these habits), singing women, musicians, &c.; and traversed all Asia to the eastern ocean. He then returned homeward through the upper Asia, Thrace, Pontus, Asia Minor, Syria, and Palestine. Wherever he marched, he conferred numberless benefits on the savage inhabitants. He taught them husbandry, gardening, botany, &c.; instructed them in the culture of the vine; and, where vines could not be produced, he taught them to produce fermented liquor from barley. He built many cities, planted numerous colonies, instituted wholesome laws, established religious rites, and left priests to teach the observance of them. In short, he left every where lasting monuments of his generosity and beneficence. Where he found the people docile and submissive, he treated them with kindness and humanity: if any showed themselves obstinate, he compelled them to submit to his institutions by force of arms.

Most persons have considered this expedition as fabulous. At the end of three years he returned to Egypt, where his brother Typhon had been forming a conspiracy against his life. He invited Osiris, with some other persons, to an entertainment. When the repast was finished he produced a beautiful coffer, highly finished, and adorned with studs of gold; promising to bestow it on the person whom it should fit best. Osiris made the experiment. The conspirators nailed down the cover upon him, and threw the coffer into the river. This coffer, now the coffin of Osiris, was wafted by the winds and waves to the neighbourhood of Byblus, a city of Phœnicia, where it was cast on shore, at the foot of a tamarind tree. Isis, in the mean time, disconsolate, attended by Anubis, ransacked every quarter in search of Osiris. At length, being informed that his body was lodged near Byblus, she repaired to that city, was introduced to the queen, and after various adventures recovered the corpse of her husband, which she carried back to Egypt: but Typhon found her on the banks of the Nile; and, having robbed her of her charge, cut the body into fourteen parts, and scattered them up and down. Once more, Isis set out in quest of those parts, all of which, one excepted, she found, and interred each in the place where she found them; and hence the many tombs of Osiris in that country. These tombs were denominated *taposins* by the natives. Many other fabulous adventures were ascribed to these two personages. See Diod. Sic. Bryant's Analysis of Ancient Mythology, and M. Cour de Gebelin.

To commemorate these adventures, the mysteries of Isis and Osiris were instituted; and from them those of Bacchus and Ceres, among the Greeks, were derived. Of the Egyptian solemnity, we have an exact epitome in one of the fathers of the church. 'They deplore annually, with deep lamentations and shaved heads, the

catastrophe of Osiris, over a buried statue of that monarch. They beat their breasts, mangle their arms, tear open the scars of their former wounds; that by annual lamentations the catastrophe of his miserable death may be revived in their minds. After a certain number of days, they pretend that they have found the remains of his mangled body; their sorrows are lulled asleep, and they break out into immoderate joy.' Osiris and Isis were probably sovereigns of Egypt at a very early period; they had conferred many benefits on their subjects, who, from gratitude, paid them divine honors after their decease; in time they were confounded with the sun and the moon; and their adventures magnified beyond all credibility, interlarded with fables, and allegorised in the mysteries.

The same mode of worship was established at Byblus, and in after ages at Tyre. The Mizraim and Chanaanim were nearly connected by blood, and their religious ceremonies were derived from the same source. Among the Phœnicians this deity obtained the names of Adonis and Bacchus. The former is rather an epithet, signifying my lord, than a name: the latter, from *bahah*, to weep, is evidently an allusion to the weeping with which the rites were performed. We now proceed to the mysteries of Osiris, as they were celebrated among the Greeks and Thracians, under the name of the Orgia of Dionysius or Bacchus.

Orpheus, the celebrated Thracian philosopher, had travelled into Egypt in quest of knowledge; and from that country, he imported the Bacchanalian rites. Some affirm that those rites were imported from Egypt or Phœnicia by Cadmus himself, a native of the former country, who spent some time in the latter, before he emigrated to Bœotia. Semele, the daughter of Cadmus, and the mother of the Grecian Bacchus, was struck with lightning at the very instant of his birth. The child was denominated Bacchus from the sorrow this accident occasioned in the family. Cadmus sent his infant grandson to his relations in Phœnicia or Egypt. There he was instructed in the mysteries of Isis and Osiris, and in all the magical tricks of the Egyptian priests. Thus accomplished, he returned to Thebes with the traditional retinue of the original deity, and claimed divine honors. This claim was not admitted without opposition; Pentheus, another grandson of Cadmus, was torn to pieces by the frantic Bacchanalians upon Mount Citheron, because he attempted to interrupt them in celebrating the orgia.

The Greeks attributed all the actions of the Egyptian hero to their new Bacchus. To him they ascribed all the adventures and exploits of the oriental archetype. Consequently in the orgia every thing was collected that had been imported relating to Osiris; and to that farrago was joined all that the Grecian rhapsodists thought fit to invent. Hence the religious ceremonies of the Greeks became a medley of inconsistencies. The adventures of the Theban pretender were grafted upon those of the Egyptian archetype, and out of this combination was formed a tissue of adventures disgraceful to human nature, absurd, and inconsistent. Indeed

the Theban Bacchus was a monster of debauchery; whereas the Egyptian is represented as a person of an opposite character. Of course the mysteries of the former were attended with the most shocking abominations. These mysteries were first celebrated at Thebes the capital of Bœotia, under the auspices of the family of Cadmus. From this country they made their way into Greece, and all the neighbouring parts of Europe.

When the day appointed for the celebration of the orgia approached, the priests issued a proclamation, enjoining all the initiated to equip themselves according to the ritual. The votaries were to dress themselves in coats of deer skins, to loose the fillets of their hair, to cover their legs with the same stuff with their coats, and to arm themselves with thyrsi. The Bacchanalians, especially the Thracians, used often to quarrel and commit murder in their drunken revels. A law was therefore enacted, that the votaries, instead of real spears, should arm themselves with wooden weapons. The statue of the deity, which was covered with vine or ivy-leaves, was elevated on the shoulders of the priests. The cavalcade then proceeded in the following order:—First, hymns were chanted in honor of Bacchus. Horace, in his dithyrambic odes, has pointed out the subjects of these Bacchanalian songs. In the hymns attributed to Orpheus we find several addressed to this deity, under different titles. The first division of the votaries preceded, carrying a pitcher of wine, with a bunch of the vine. Then followed the he-goat; an animal odious to Bacchus, because he ravages the vines. The chanting hymns, the sacrificing the he-goat, and the revels, games, and diversions, gave birth to the dramatic poetry of the Greeks; as the persons habited as fauns, sylvans, and satyrs, furnished the name of another species of poetry. Then appeared the mysterious coffer, containing the secret symbols of the deity. These were the phallus, some grains of sesama, heads of poppies, pomegranates, dry stems, cakes baked of the meal of different kinds of corn, salt, carded wool, rolls of honey, and cheese; a child, a serpent, and a fan. Clemens Alexandrinus mentions also the dye, the ball, the top, the wheel, the apples, the looking-glass, and the fleece. The articles first mentioned were of Egyptian original; the last were superinduced by the Greeks, in allusion to his being murdered and torn in pieces when he was a child by the machinations of Juno, who prevailed with the Titans to commit the horrid deed. These last were memorials of his boyish play-things; for, says Maternus, 'the Cretans, in celebrating the rites of the child Bacchus, acted every thing that the dying boy either said, or did, or suffered.' 'They likewise,' says he, 'tore a live bull in pieces with their teeth to commemorate the dismembering of the boy.' But Porphyry says, 'that in the island of Chios they sacrificed a man to Bacchus, and mangled and tore him limb from limb.'

On the day set apart for this solemnity, men and women, crowned with ivy, their hair dishevelled, and their bodies almost naked, ran about the streets, roaring aloud *Evohe Bacche!*

intoxicated with wine and enthusiasm, dressed like Satyrs, Fauns, and Silenuses, in postures and attitudes the most disgustingly indecent. Next followed a company mounted upon asses, attended by Fauns, Bacchanals, Thyades, Mirmallonides, Naiads, Tityri, &c., who made the adjacent places echo to their frantic howlings. After this tumultuous herd were carried the statues of victory, and altars in form of vine-sets crowned with ivy, smoking with incense. Then appeared several chariots loaded with thyrsi, arms, garlands, casks, pitchers, vases, tripods, &c. The chariots were followed by young virgins of rank, who carried the baskets and little boxes which contained the mysterious articles. These, from their office, were called *cistophoræ*. The phallophori followed with a chorus of ithallophori habited like Fauns, counterfeiting drunken persons, and singing in honor of Bacchus. The procession was closed by a troop of Bacchanalians crowned with ivy, interwoven with branches of yew, and with serpents. Sometimes at these scandalous festivals, naked women whipped themselves, and tore their skins in a barbarous manner. The procession terminated on Mount Citheron, when it set out from Thebes; and in other places, in some distant unfrequented desert, where the votaries practised every species of debauchery with secrecy and impunity. Orpheus saw the degeneracy of these ceremonies; and in endeavouring to reform them lost his life. Pentheus suffered in the like attempt, being torn in pieces by the Bacchanalians, among whom were his own mother and aunts. For further information on this subject, we refer the reader to Diod. Sic. Apollod. Bibl. Euripid. Bacchæ. Aristophanis Ranæ. Nonn. Dionys. Ban. Mythol. Voss. de orig. Idol. Fourmont, Reflexions sur l'origine des anciens peuples. Bryant's Analys., and Cour de Gebelin, Calendriers.

We proceed to the Eleusinian mysteries, which, among the ancient Greeks and Romans, were treated with a superior degree of awe and veneration. These were instituted in honor of Ceres, the goddess of corn; who, according to the most authentic accounts, was the Isis of the Egyptians. The mysteries of Osiris and Isis were originally instituted in honor of the sun and moon, and afterwards consecrated to an Egyptian prince and princess, who had been deified by that people. We know of no more exact and brilliant description of the ceremonies of that goddess, in the most polished ages of the Egyptian superstition, than what we meet with in the witty and florid Apuleius (lib. xi.), to which we refer our curious readers. By what means, and upon what occasion, those mysteries were introduced into Attica, and established at Eleusis, Diodorus Siculus illustrates: 'Erectheus,' says he, 'a prince of Egyptian extraction, once reigned at Athens. A scorching drought, during his reign, prevailed over all the world, except Egypt; which, from the humidity of its soil, was not affected by that calamity. The fruits of the earth were burnt up; and multitudes of people perished; Erectheus imported a vast quantity of grain from Egypt to Athens. The people, relieved by his munifi-

cence, unanimously elected him king, and he taught them the mysteries of Ceres at Eleusis. In those times the goddess is said to have appeared at Athens, three times; because corn was thrice imported into Attica.' Here then we have the whole mystery of the arrival of Ceres in Attica, and the institution of her mysteries at Eleusis unveiled. The whole is evidently an allegory.

Triptolemus, another Egyptian, was appointed by Erectheus to export this superfluous store. That hero, according to Pherecydes, was the son of Oceanus and Tellus, or the sea and the earth; because his parents were not known, and because he came to Eleusis by sea. The ship in which he sailed was decorated with the figure of a winged dragon; therefore, he was said to be wafted through the air in a chariot drawn by dragons. Wherever Triptolemus disposed of his corn, thither were extended the wanderings of Ceres. Together with the grain imported from Egypt, Erectheus, or Triptolemus, or both, transported into Attica a number of priests and priestesses; who spread their rites over almost all Asia and great part of Europe. The Greek and Roman idolatry originated from them. The worship of Isis was introduced into every country where Triptolemus sold his grain. Hence the wanderings of Ceres in search of her daughter Proserpine. The disappearing of the fruits of the earth, of which Proserpine is the emblem, is the allegorical rape of that goddess, by Pluto, sovereign of the infernal regions. The wanderings of Isis in search of Osiris furnished the model for the perigrinations of Ceres.

Ceres, the Roman name of the goddess of corn, was unknown to the Greeks. They always denominated her *Δημητῆρ*, Demeter (whence Demetrius), or Damater, which is rather an epithet than a proper name; formed of the Chaldaic particle *da*, the, and *mater*, mother. Cecrops I., king of Attica, had established the worship of the Saitic Athena, or Minerva, in that region, and consecrated his capital to that deity. Erectheus introduced the worship of Isis or Damater. The subjects of Cecrops were a colony of Saites, and readily embraced the worship of Minerva; but the Aborigines, being accustomed to a maritime life, were more inclined to consecrate their city to Neptune. Cecrops by a stratagem secured the preference to Minerva. Erectheus, to give equal importance to his patroness, instituted the Eleusinian mysteries.

The archpriestess, who personated the newly imported deity, was entertained by one Celeus, king or viceroy of the district of Eleusis. Upon her arrival, a farce was acted not very suitable to the character of a goddess. The indecencies attending the first appearance of the goddess, or the Egyptian dame who assumed her character, were copied from similar unhalloved modes of behaviour, practised in the solemn processions of her native country. These coarse jokes had an allegorical signification in Egypt; and among the most ancient Greeks the same spirit was diffused by the oriental colonists; but afterwards they abandoned the allegorical style, and lost every idea of their religious, moral, or physical

interpretation; while the shameful rencontre between Ceres and Banbo, or Jambe, was retained in the mysteries. See *Appollodorus* and *Clemens Alexandrinus*. At the time that Ceres arrived in Attica, Bacchus likewise made his appearance in that country. He was entertained by one Icarus; whom, as a reward for his hospitality, he instructed in the art of cultivating the vine, and making wine. Thus both agriculture and the art of managing the vintage were introduced into Athens about the same time. Ceres was a priestess of Isis; Bacchus was a priest of Osiris. The arrival of these two personages from Egypt, with a number of inferior priests in their train, produced a revolution in Athens, with respect to life, manners, and religion. The sacred rites of Isis, or the Eleusinian mysteries, date their institution from this period. When this company arrived at Eleusis they were entertained by the most respectable persons in that district. Their names, according to *Clem. Alexand.*, were Banbo, Dysaulis, Triptolemus, Eumolpus, and Eubulus. From Eumolpus descended a race of priests called Eumolpidae, who figured at Athens many ages after. Triptolemus was an ox-herd, Eumolpus a shepherd, and Eubulus a swine-herd. These were the first apostles of the Eleusinian mysteries. Erectheus, or Pandion, countenanced the seminary, and built a small temple for its accommodation in Eleusis, a city of Attica, a few miles west of Athens, and capital of one of the twelve districts into which that territory was divided. This was the scene of those renowned mysteries, which for nearly 2000 years were the pride of Athens.

The mysteries were divided into the *greater* and *lesser*. The latter were celebrated at Agræ, a small town on the Ilyssus; the former were celebrated in the month Boedromion; the latter in that of Anthesterion. All the lesser ceremonies, described under the article ELEUSINIA, being duly performed, the candidate was carried into the hall appointed for initiation. There he was taught the first elements of those arcana which were afterwards more fully revealed in the more august mysteries of Eleusis. The pupils at Agræ were called Mystæ, or probationers; those of Eleusis were denominated Epopææ, importing that they saw as they were seen. The lesser mysteries were divided into several stages, and candidates were admitted to them according to their quality and capacity respectively. Those who were initiated in the lowest were obliged to wait five years before they were admitted to the greater. Those who had partaken of the second kind underwent a noviciate of three years; those who had been admitted to the third, only of two years; and those who had gone through the fourth were admitted to the greater at the end of one year; which was the shortest period of probation a candidate could legally undergo. As to the greater mysteries, originally none but the natives of Attica were admitted to them. In time, however, the pale was extended so far and wide as to comprehend all who spoke the Greek language; but all foreigners were debarred. Hercules, Bacchus, Castor, Pollux, Æsculapius, and Hippocrates were initiated in an extraordi-

nary manner, from a regard to their high character. All barbarians, too, were excluded; yet Anacharsis the Scythian was indulged that privilege, in consequence of his reputation for science. All persons guilty of manslaughter, all magicians, enchanters, all impious and profane persons, were expressly prohibited the benefit of this pagan sacrament. At last, however, the gate became wider, and people of all nations, provided their character was fair, were admitted. The Athenians at last initiated even their infants, that they might be under the protection of the goddess.

On the evening of the 15th day of Boedromion the initiations commenced; for all the most solemn rites of paganism were performed during the night; they were indeed generally works of darkness. On this day there was a solemn cavalcade of Athenian matrons from Athens to Eleusis, in carriages drawn by oxen. In this procession the ladies used to rally one another in pretty loose terms, in imitation of the Isiac procession described by Herodotus. The most remarkable object in this procession was the Mundus Cereris, contained in a small coffer or basket. This was carried by Athenian matrons. In this coffer were lodged the comb of Ceres, her mirror, a serpentine figure, some wheat and barley, the pudenda of the two sexes, &c. The procession ended at the temple, where this sacred charge was deposited with the greatest solemnity. We have no complete description of the temple of Eleusis. That of its ruins, by Dr. Chandler, is inserted under ELEUSIS. Strabo informs us that the mystic sanctuary was as large as a theatre. In the porch of this temple the candidates were crowned with garlands of flowers, which they called *lymera*, or the desirable. They were dressed in new garments, which they continued to wear till they were quite worn out. They washed their hands in a laver filled with holy water, as a symbol of purity. Before the doors were locked, one of the officers of the temple proclaimed with a loud voice a stern mandate, enjoining all the uninitiated to keep at a distance from the temple, and denouncing the most terrible menaces if any should dare to pry into the holy mysteries. Any person who ventured into the sanctuary, even through ignorance, was put to death without mercy.

The chief minister of these far-famed mysteries was the hierophant. He was styled king, enjoyed that dignity during life, was always an Athenian, and presided in the solemnity. This personage, says Eusebius, represented the Demiurgus, or Creator. 'Now in the mysteries of Eleusis,' says he, 'the hierophant is dressed out in the figure of the demiurgus. The demiurgus,' adds he, 'whom the Egyptians call Cneph, is figured as a man of an azure color, shaded with black, holding in his right hand a sceptre, and in his left a girdle, and having on his head a royal wing or feather wreathed round.' The next minister was the daduchus, or torch-bearer; who, according to Eusebius, was attired like the sun, the visible type of the supreme demiurgus. The third was the person who officiated at the altar. He was habited like the moon. His

office was to implore the favor of the gods for all the initiated. The sacred herald was another principal actor. His province was to recite every thing that was to be communicated to the novices. He probably represented *Thoth* or *Mercury*, the interpreter of the gods. There were also five *epimeletæ* or curators, of whom the king was one, who jointly directed the whole ceremonial; and ten priests to offer the sacrifices.

We return to the *mystæ*, or candidates for initiation. *Eusebius*, *Clemens Alexandrinus*, and *Justin*, mention a hymn composed by *Orpheus*, which was sung by the *mystagogue* upon that occasion. That some sacred hymn was chanted is highly probable; but that it was composed by *Orpheus* appears problematical. Before the ceremony opened, a book was produced, which contained every thing relating to the *telætæ*. This was read over to the *mystæ*; who were ordered to write out copies of it. It was kept at *Eleusis* in a sacred repository, called *petroma*, between two large stones.

The initiations began with a representation of the wanderings of *Ceres*, and her lamentations for her daughter. One of the company having kindled a firebrand at the altar, and sprung to a place in the temple, waving the torch furiously, a second snatched it from him, roaring and waving it in the same frantic manner; then a third, a fourth, &c., in the most rapid succession. This was an imitation of *Ceres*, who perλούstrated the earth with a flaming pine in her hand, which she had lighted at mount *Etna*. When the pageant of the goddess was supposed to arrive at *Eleusis*, a solemn pause ensued, and a few trifling questions were put to the *mystæ*. The *mundus Cereris* was then displayed before the *mystæ*, and the *mystagogue* read a lecture on the allegorical import of these symbols, which was heard with the most solemn silence. Many traditions were then communicated to the *mystæ* concerning the origin of the universe, &c., as we learn from *Clemens Alexandrinus* and *Cicero*. This cosmogony was that of the most ancient Egyptians, and of the orientals in general. It is beautifully exhibited in *Plato's Timæus*, and by *Ovid* in his *Metamorphoses*, lib. 1, fab. 1—3. The next scene consisted of the exploits of the gods, demigods, and heroes, who had been advanced to divine honors. These were displayed as passing before the *mystæ* in pageants fabricated on purpose. But, though thus 'there were gods many and lords many,' yet, according to *Eusebius*, the unity of the Supreme Being was maintained and inculcated. This was the original doctrine of the hierophants of Egypt. It was maintained by *Thales* and all the *Ionian* school. It was the doctrine of *Pythagoras*, who probably gleaned it up in Egypt, along with many other dogmas which he claimed as his own.

But however the unity, and some of the most obvious attributes of the Supreme Being, might be inculcated, the tribute of homage was duly paid to the subordinate divinities. The initiated were taught to look to the *dii majorum gentium* with awe and veneration, as beings endowed with ineffable power, wisdom, purity, goodness, &c. These they were exhorted to adore: to offer

sacrifices, prayers, &c. They were instructed to look up to hero-gods and demi-gods, as beings exalted to the high rank of governors of different parts of nature, as the immediate guardians of the human race; in short, as gods near at hand, ready upon all occasions to confer blessings upon the virtuous. As the two chief ends of these initiations were the exercise of heroic virtues in men, and the practice of uniform piety by the candidates for immortal happiness, the hierophants had adopted a plan well accommodated to these purposes. The virtuous conduct and heroic exploits of the demi-gods were magnified by the most pompous eulogiums, and enforced with suitable exhortations. The heroes and demi-gods themselves were displayed in pageants, or vehicles of celestial light. Their honors, offices, and other appendages, were exhibited with all the splendor that the sacerdotal college were able to devise. The sudden glare of mimic light, the melting music stealing upon the air, the artificial thunders reverberated from the roof and walls of the temple, the appearance of fire and ethereal radiance, the vehicles of flames, the effigies of heroes and demons adorned with crowns of laurel, the fragrant odors and aromatic gales which breathed from every quarter, all dexterously counterfeited by sacerdotal mechanism, in the dead of night, amidst a dismal gloom, whence the most bright effulgence instantaneously burst upon the sight, must have filled the imagination of the astonished votaries with pictures at once tremendous and transporting.

But, as all the candidates for initiation might not aspire to the rank of heroes and demi-gods, a more easy and more attainable mode of conduct, to arrive at the place of happiness, required to be opened. Private virtues were inculcated, and these, too, were to meet a proper reward. The conductors of the mysteries urged the doctrine of a future state of rewards and punishments. The immortality of the soul was elucidated and inculcated. This doctrine was likewise imported from Egypt; for *Herodotus* says (lib. ii.) 'that the Egyptians were the first people who maintained the immortality of the human soul.' The Egyptian immortality, however, according to him, was only the *metempsychosis*. This was not the system of the ancient Egyptians, nor indeed of the *telætæ*. In these a *metempsychosis* was admitted; but it was carried forward to a very distant period, to wit, to the grand Egyptian period of 36,000 years. As the *mystagogues* well knew that men are more powerfully affected by objects presented to the eyes, than by the most engaging instructions conveyed by the ear, they made the emblems of *Elysium* and *Tartarus* pass in review before the eyes of their novices. Thus the *Elysian* scenes, so nobly described by the Roman poet, appeared in mimic splendor; while the gloom of *Tartarus*, the three-headed dog of hell, the furies with tresses of snakes, the tribunals of *Minos*, *Jæcus*, and *Rhadamanthus*, &c., were displayed in all their terrific state. *Tantalus*, *Ixion*, *Sisyphus*, the daughters of *Danaus*, &c., were represented in pageants before their eyes. These exhibitions were accompanied with most horrible

cries and howlings, thunders, lightning, and other objects of terror. The worship of the gods was strictly enjoined. The three laws ascribed to Triptolemus were strictly inculcated. 1. To honor their parents; 2. To honor the gods with the first fruit of the earth; 3. Not to treat brutes with cruelty. Cicero makes the civilisation of mankind one of the most beneficial effects of the Eleusinian institutions.

The initiated then bound themselves by dreadful oaths to observe and practise every precept tendered to them in the course of the teletæ; and never to divulge one article of all that had been heard or seen by them. In this they were so exceedingly jealous, that Æschylus the tragedian was in danger of capital punishment, for having only alluded to one of the Eleusinian arcana in a tragedy: and one of the articles of indictment against Diagoras the Melian was, his having spoken disrespectfully of the mysteries, and dissuaded people from partaking of them. To impress these maxims the more deeply upon the minds of the novices, 'towards the end of the celebration,' says Stobæus, 'the whole scene becomes terrible; all is trembling, shuddering, and astonishment. Many horrible spectres are seen, and strange cries and howlings uttered. Light succeeds darkness; and again the blackest darkness the most glaring light. Now appear open plains, flowery meads, and waving groves; where are seen dances and choruses; and various holy phantasies enchant the sight. Melodious notes are heard from afar, with all the sublime symphony of the sacred hymns. The pupil, now completely perfect, is initiated, becomes free, released, and walks about with a crown on his head, and is admitted to bear a part in the sacred rites.' Pletho, in the oracles of Zoroastres, informs us, 'that frightful and shocking apparitions, in a variety of forms, used to be displayed to the mystæ in the course of their initiation:' and 'that thunder, lightning, and fire, and every thing terrible which might be held symbolical of the divine presence, were introduced.' Claudian, in his poem *De Raptâ Proserpinâ*, gives an elegant, though brief, description of these scenes. The sight of those appearances was called *Autopsia*, or actual seeing: hence those rites were called *epoptica*. The *epoptæ* were actually initiated, and were admitted into the *sanctum sanctorum*, and bore a part in the ceremonial; whereas the *mystæ* were obliged to take their station in the porch of the temple. The candidates for initiation bathed themselves in holy water, and put on new clothes of linen, which they continued to wear till they were quite torn, and then they were consecrated to Ceres and Proserpine. From the ceremony of bathing they were called *hydrani*; and this was a kind of baptismal absolution.

The *epoptæ* having sustained all those fiery trials, heard and seen every thing requisite, taken upon them the vows and engagements of Ceres and Proserpine, were now declared perfect men. They were crowned with laurel, and dismissed with two barbarous words, *Κονξ ομπαξ*, *koux ompax*, of which perhaps the hierophants themselves did not comprehend the import. They had been introduced by the first Egyptian

missionaries, and retained after their signification was lost. This was a common practice among the Greeks. In the administration of their religious ceremonies, they retained many names of persons, places, things, customs, &c., which had been introduced by the Phœnicians and Egyptians, from whom they borrowed their system of idolatry. Those terms constituted the language of the gods, so often mentioned by Homer. The above words appear to be Syriac, and to signify, be vigilant, be innocent. Numerous and important were the advantages supposed to redound to the initiated, from their being admitted to partake of the mysteries, both in this life and that which is to come. Euripides, in his *Bacchæ*, act. I., &c., introduces the chorus extolling the happiness of those who had been acquainted with God, by participating in the holy mysteries, and whose minds had been enlightened by the mystical rites. The happy influences of the teletæ were supposed to administer consolation to the *epoptæ* in the hour of dissolution. Isocrates confirms this; and Aristides (*de Myst. Eleus.*) tells us, 'that the initiated were not only often rescued from many hardships in their life time, but at death entertained hopes that they should be raised to a more happy condition.' After death, they were, in the Elysian fields, to enjoy superior degrees of felicity, to bask in eternal sun-shine, to quaff nectar, and feast upon ambrosia, &c.

The priests made their disciples believe that the souls of the uninitiated, when they arrived in the infernal regions, should roll in mire and dirt, and with very great difficulty arrive at their destined mansion. Hence Plato introduces Socrates observing, 'that the sages who instituted the teletæ had positively affirmed, that whatever soul should arrive in the infernal mansions unhouelled and unannealed, should lie there immersed in mire and filth.' And as to a future state, says Aristides, 'the initiated shall not roll in mire and grope in darkness; a fate which awaits the unholy and uninitiated.' When the Athenians advised Diogenes to get himself initiated, and enforced their arguments with the above considerations, 'It will be pretty enough,' replied the philosopher, 'to see Agesilaus and Epaminondas wallowing in the mire, while the most contemptible rascals who have been initiated are strutting in the islands of bliss.' When Antisthenes was to be initiated in the Orphic mysteries, and the priest was boasting of the many astonishing benefits which the initiated should enjoy in a future state, 'Why,' says Antisthenes, 'it is strange your reverence don't e'en hang yourself, to come at them the sooner.' After the Macedonian conquests, the hierophants abated much of their original strictness. In the age of Cicero, Eleusis was a temple to which all nations resorted. Almost all the great men of Rome were initiated. The hierophants, however, refused to admit Nero on account of the profligacy of his character. Few others were refused that honor.

This institution gradually degenerated, but how much, and in what points, it is difficult to investigate. The fathers of the church are not always to be trusted when they arraign the insti-

tutions of Paganism. Melantheus, Menander, Sotades, &c., wrote purposely on the subject, but their works are long since lost. Among modern authors Meursius and Warburton have labored most successfully in this field. The former, in his *Liber Singularis*, has collected every thing that can be gleaned from antiquity relating to these institutions, without, however, pointing out their original, or elucidating the end and import of their establishment. The latter has drawn them into the vortex of a system which has in many instances led him to ascribe to them a higher merit than they deserve.

These mysteries continued in high reputation to the age of St. Jerome. The emperor Valentinian intended to have suppressed them; but Zozimus says, he was diverted from his design by the proconsul of Greece. At length Theodosius I. prohibited the celebration of these and all the other sacra of Paganism. They had maintained their ground nearly 2000 years; during which space the celebration of them never had been interrupted but once. When Alexander the

Great massacred the Thebans, and razed their city, the Athenians were so much affected with this melancholy event, that they neglected the celebration of that festival.

There were many other mysterious institutions among the ancient Pagans, but the above were the most celebrated. The Samothracian mysteries, instituted in honor of the Cabiri, were likewise of considerable celebrity, and were supposed to confer the same blessings with the Eleusinian, but were not of equal celebrity. The Cabiri were Phœnician and likewise Egyptian deities. Bochart has explained their origin, number, names, and some parts of their worship. The Orphic mysteries were likewise famous among the Thracians. Orpheus learned them in Egypt and they were nearly the same with the Bacchanalia of the Greeks. There were likewise the mysteries of Jupiter Idæus in great request among the Cretans, and those of Cybele celebrated in Phrygia. To enumerate and detail all these would require volumes.

MYSTERY is primarily used in speaking of certain truths revealed in Scripture, into the full understanding whereof human reason cannot penetrate. Such are the doctrines of the Trinity, the Incarnation, &c. We have an epitome of the mysteries of faith, or the mysteries of Christianity, in the symbols or creeds compiled by the apostles, the council of Nice, and St. Athanasius. See **CREED**.

MYSTERY, in English antiquity, is a term formerly applied to our dramatic exhibitions. It is well known, says Mr. Percy, in his *Reliques of Ancient English Poetry*, that dramatic poetry in this and most other nations of Europe owes its origin, or at least its revival, to those religious shews which in the dark ages were usually exhibited on the more solemn festivals. At those times they were wont to represent, in the churches, the lives and miracles of the saints, or some of the more important histories of Scripture. And as the most mysterious subjects were frequently chosen, such as the incarnation, passion, and resurrection of Christ, &c., these exhibitions acquired the name of mysteries. At first they were probably a kind of dumb shows, intermingled with a few short speeches: at length they grew into a regular series of connected dialogues, formally divided into acts and scenes. Specimens of these, in their most improved state, may be seen in Dodsley's *Old Plays*, and in Osborne's *Harleian Miscellany*. As the old mysteries frequently required the representation of some allegorical personage, such as death, sin, charity, faith, and the like, by degrees the rude poets of those unlettered ages, towards the fifteenth century, began to form complete dramatic pieces, consisting entirely of such personifications. These they entitled moral plays, or moralities. The mysteries were very inartificial, representing the scripture stories singly, according to the letter. But the moralities are not devoid of invention; they exhibit the outlines of the dramatic art, containing something of a fable or plot, and even attempting to delineate characters and manners.

MYSTICAL, *n. s.* } Lat. *mysticus*. Obscure; emblematical:
MYSTICALLY, *adv.* }
MYSTICALNESS, *n. s.* } involving some secret or occult meaning.

Let God himself that made me, let not man that knows not himself, be my instructor, concerning the *mystical* way to heaven. *Hooker.*

These two in thy sacred bosom hold,
 Till *mystically* joined but one they be. *Donne.*

It is Christ's body in the sacrament and out of it; but in the sacrament not the natural truth, but the spiritual and *mystical*.

Taylor's Worthy Communicant.

Ye five other wandering fires! that move
 In *mystick* dance not without song, resound
 His praise, who out of darkness called up light.

Milton.

It is surely another spiritual Zion, or *mystical* rock, which is prophesied of. *Burrow.*

Least new fears disturb the happy state,
 Know, I have searched the *mystick* rolls of fate.

Dryden.

It is plain from the Apocalypse, that *mystical* Babylon is to be consumed by fire. *Burnet.*

Thence *mystic* knots mak great abuse,
 On young guidman, fond, keen, an' crouse;
 When the best wark-lume i' the house,

By cantrip wit,

Is instant made no worth a louse,
 Just at the bit. *Burns.*

The purple midnight veiled that *mystic* meeting
 With her most starry canopy, and seating
 Thyself by thine adorer, what befell? *Byron.*

MYSTICAL implies something mysterious or allegorical. Some commentators on the sacred writings, besides a literal find also a mystical meaning. The sense of Scripture, say they, is either that immediately signified by the words and expressions in the common use of language; or it is mediate, sublime, typical, and mystical. The literal sense they again divide into proper literal, which is contained in the words taken simply and properly; and metaphorical literal, where the words are to be taken in a figurative and metaphorical sense. And sometimes they take the same word in Scripture in all the four

senses; the word Jerusalem literally signifies the capital of Judea; allegorically, the church militant; tropologically, a believer; and anagogically heaven.

MYSTICI, or **MYSTICS**, a kind of religious sect, distinguished by their professing pure, sublime, and perfect devotion, with an entire disinterested love of God, free from all selfish considerations. The mystics, to excuse their fanatic ecstasies and amorous extravagancies, allege that passage of St. Paul, 'The spirit maketh intercession for us with groanings which cannot be uttered.' Rom. viii. 26. Passive contemplation is that state of perfection to which the mystics all aspire. This mystic science sprung up towards the close of the third century. The authors are not known; but the principle proceeded from the known doctrine of the Platonic school, which was also adopted by Origen and his disciples, that the divine nature was diffused through all human souls, or that the faculty of reason, from which proceed the health and vigor of the mind, was an emanation from God into the soul, and comprehended in it the principles and elements of all truth, human and divine. The mystics denied that men could by study excite this celestial flame in their breasts; and therefore they disapproved highly of the attempts of those, who, by definitions, abstract theorems, and profound speculations, endeavoured to form distinct notions of truth. They maintained that silence, tranquillity, repose, and solitude, accompanied with such acts as tend to extenuate and exhaust the body, were the means by which the hidden and internal word was excited to produce its latent virtues, and to instruct them in the knowledge of divine things. Those, say they, who behold with a noble contempt all human affairs, who turn away their eyes from terrestrial vanities, and shut all the avenues of the outward senses against the contagious influences of a material world, must necessarily return to God, when the spirit is thus disengaged from the impediments that prevented that happy union. And in this blessed frame they not only enjoy inexpressible raptures from their communion with the Supreme Being, but also are invested with the inestimable privilege of contemplating truth undisguised and uncorrupted in its native purity, while others behold it in a vitiated and delusive form. The number of the mystics increased in the fourth century, under the influence of the Grecian fanatic, who gave himself out for Dionysius the Areopagite, and by pretending to higher degrees of perfection than other Christians, and practising greater austerity, their cause gained ground, especially in the eastern provinces, in the fifth century. A copy of the pretended works of Dionysius was sent by Balbus to Louis the Meek in 824, which kindled the flame of mysticism in the western provinces, and filled the Latins with the most enthusiastic admiration of this new religion. In the twelfth century, the mystics, by searching for mysteries and hidden meanings in the plainest expressions, forced the word of God into a conformity with their visionary doctrines, their enthusiastic feelings, and the system of discipline which they had drawn from the excursions of their irregular fancies. In the thirteenth century they were the most formidable antagonists of the

schoolmen; and towards the end of the fourteenth many of them resided and propagated their tenets in almost every part of Europe. They had in the fifteenth century many persons of distinguished merit in their number; and in the sixteenth, previous to the Reformation, if any sparks of real piety subsisted under the prevailing superstition, they were only to be found among the mystics. The principles of this sect were adopted by the **QUIETISTS** in the seventeenth century, and, under different modifications, by the **QUAKERS** and **METHODISTS**. See these articles.

MYSTRUM, a liquid measure among the ancients, containing a fourth part of the Cyathus, and weighing two drachms and a half of oil, or two drachms two scruples of water or wine.

MYTENS (Daniel), a native of the Hague, was an admired painter in the reigns of king James I. and Charles I. He had certainly, Mr. Walpole says, studied the works of Rubens before his coming over. His landscapes in the back grounds of his portraits are evidently in the style of that school; and some of his works have been taken for Vandyck's. At Hampton Court are several whole lengths of princes and princesses of the house of Brunswick, and the portrait of Charles Howard, earl of Nottingham; at Kensington is Mytens's own head. At Knowle, at Drayton, and at St. James's, are various portraits by Mytens. The picture of Mary, queen of Scots, at St. James's, is a copy by Mytens. He remained in great reputation till the arrival of Vandyck, who being appointed the king's principal painter, Mytens asked the king's leave to retire to his own country; but the king, learning the cause of his dissatisfaction, treated him with much kindness, and told him that he could find sufficient employment both for him and Vandyck. Mytens consented to stay, and even grew intimate with his rival, who painted his head; but we find none of his works here after 1630. Yet he lived many years afterwards. Houbraken quotes a register at the Hague, dated 1656, which says Mytens painted part of the ceiling of the town-hall there; the subject is, Truth writing History on the back of Fame.

MYTENS (Martin), a portrait and historical painter, was born at Stockholm in 1695. When he had practised for some years he went to Holland, and thence to London, where he practised miniature and enamel painting, and by his performances in that way gained a sufficient maintenance. In 1717 he visited Paris, where he painted portraits of the duke of Orleans, Louis XV., and the czar Peter. In 1721 he arrived at Vienna, and having painted the portraits of the emperor, the empress, and the most illustrious persons at that court, he proceeded to Italy in 1723. Having visited Venice, and spent two years at Rome, he went to Florence, where the grand duke Gascon I., having engaged him for some time in his service, made him considerable presents, and placed his portrait among the heads of illustrious artists in his gallery. The king and queen of Sweden presented him with a chain of gold and a medal each, after his return from Italy. At last he settled at Vienna, where he obtained large appointments from the court. He died in 1755.

M Y T H O L O G Y .

MYTHOLOGY, *n. s.* } Fr. *mythologie*; Gr. *μυθολογία*, a fable, and
MYTHOLOGICAL, *adj.* } *μυθος*, a fable, and
MYTHOLOGIST, *n. s.* } *λογος*. A system of
MYTHOLOGIZE, *v. a.* } fabulous divinity or
 history: used particularly of the various false
 religions of the ancient world: mythological is
 relating to a system or scheme of fabulous reli-
 gion or history: a mythologist, he who relates or
 expounds such a system: to mythologize, to re-
 late or expound it.

Even in the very first world were giants, as Moses tells us, which, as our *mythologists* add, did 'bid battle to heaven.'

Bp. Hall.

The grammarians and *mythologists* seem to be altogether unacquainted with his writings. *Creech.*

The original of the conceit was probably hieroglyphical, which after became *mythological*, and by tradition stole into a total verity, which was but partially true in its covert sense and morality.

Browne's Vulgar Errors.

It was a celebrated problem among the ancient *mythologists*, What was the strongest thing, what the wisest, and what the greatest?

Norris.

The modesty of *mythology* deserves to be commended; the scenes there are laid at a distance: it is once upon a time, in the days of yore, and in the land of Utopia.

Bentley.

MYTHOLOGY, in its original import, signifies any kind of fabulous doctrine; in its more appropriated sense, it means those fabulous details concerning the objects of worship, which were invented and propagated by men who lived in the early ages of the world, and by them transmitted to succeeding generations, either by written records or by oral tradition. The theology and mythology of the ancients are therefore almost the same.

With respect to fable, it is a creature of the human imagination, and derives its birth from that love of novelty, which is congenial to the soul of man. The appearances of nature which every day occur, objects, actions, and events, which succeed each other, seem too familiar and uninteresting to gratify curiosity, or to excite admiration. But when the most common phenomena in nature or life are new modelled by a warm imagination; when they are diversified, compounded, embellished, or arranged into forms which seldom or never occur in the ordinary course of things; novelty generates admiration, and thus proves a source of fiction and fable.

Many circumstances contributed to extend and establish the empire of fable. The legislator laid hold on this bias of human nature, and employed fable and fiction as the most effectual means to civilise a rude world. Philosophers, theologians, poets, musicians, made use of this vehicle to convey their instructions to the savage tribes. They knew that truth, simple and unadorned, is not possessed of charms powerful enough to captivate the heart of man in his degenerate state. This consideration naturally led them to employ fiction and allegory.

Though almost every nation on the globe has fabricated its own system of mythology, the

orientals have distinguished themselves by the boldness, the inconsistency, and the extravagance of their mythology. The genial warmth of those happy climes, the fertility of the soil, which afforded every necessary, and often every luxury of life, without great laborious exertions; the face of nature perpetually blooming around them, the skies smiling with uninterrupted serenity; all contributed to inspire them with a glow of fancy and vigor of imagination rarely met with in less happy regions. Hence every object was swelled beyond its natural dimensions. Nothing was great or little in moderation, but every sentiment was heightened with incredible hyperbole. The magnificent, the sublime, the vast, the enormous, the marvellous, first sprung up, and were brought to maturity in those native regions of fable; and were thence transplanted into the western countries.

As the allegorical taste of the eastern nations had sprung from their propensity to fable, so allegory in process of time contributed to multiply fables and fiction almost infinitely. The latent import of the allegorical doctrines being in a few ages lost, what was originally a moral or theological tenet, assumed the air of a personal adventure. The propensity towards personification, almost universal among the orientals, was another fruitful source of fable and allegory. That the people of the east were strongly inclined to personify inanimate objects and abstract ideas, will be readily granted, when it is considered, that in the formation of language they have generally annexed sexes of names. Hence the distinction of grammatical genders, which originated in the eastern parts of the world.

The general use of hieroglyphics in the east also contributed largely to extend the empire of mythology. As the import of the figures employed was arbitrary, mistakes must have been often committed in ascertaining what they were intended to represent. When the development of these arbitrary signs was attended with uncommon difficulty, the expounders were obliged to have recourse to conjecture. The wise men of the east delighted in obscure enigmatical sentences. Their dark sayings often occur in the most ancient records. The sages of antiquity used to vie with each other for the prize of superior wisdom, by propounding riddles and mysterious questions, as subjects of investigation. As the import of those enigmatical propositions was often lost, nothing remained but fancy and conjecture, which always verged towards fable. This was another source of mythology.

The pagan priests, especially in Egypt, were probably the first who reduced mythology to a system. The sacerdotal tribe, among that people, were the grand depositaries of learning and religion. They monopolised all the arts and sciences; and precluded the laity from all intellectual improvement. This was done to keep the laity in subjection, and to enhance their own importance. The language of Ethiopia became their

sacred dialect, and hieroglyphics their sacred character. Egypt, of course, became a kind of fairy land, where all was jugglery, magic, and enchantment. The initiated alone were admitted to the knowledge of the occult mystical exhibitions, which constituted the essence of their religion. The Egyptians, and indeed all the ancients, deemed the mysteries of religion too sacred to be communicated to the herd of mankind, naked and unreserved. Egypt was the land of graven images; allegory and mythology were the veils which concealed religion from the vulgar.

In the earliest stage of society we cannot suppose fable to have existed among men. Fables are always tales of other times; but at this period other times did not reach far enough backward to afford those fruits of the imagination time to arrive at maturity. Fable requires a considerable space of time to acquire credibility, and to rise into reputation. The Chinese and Egyptians, the two most ancient nations whose annals have reached our times, were unacquainted with fabulous details in the most early periods of their monarchies. It has been shown almost to a demonstration, by a variety of learned men, that both these people, during some centuries after the general deluge, retained and practised the primitive Noachic religion, in which fable could find no place; all was genuine unsophisticated truth.

As soon as the authentic tradition concerning the creation was either lost or adulterated, fiction began to prevail. The Egyptian Thoth, Thyoth, or Mercurius Trismegistus, and Mochus the Phœnician, undertook to account for the formation and arrangement of the universe, upon principles purely mechanical. Here fable began to usurp the place of historical truth. Accordingly all the historians of antiquity, who have given a general detail of the affairs of the world, have ushered in their narration with a fabulous cosmogony. Here imagination ranged unconfined over the boundless extent of the primary chaos. To be convinced of this, we need only look into Sanchoniathou's *Cosmogony*, Euseb. *Præp. Evang.* l. 1, and Diodorus *Sic.* l. 1. From this it follows that the first fables owed their birth to the erroneous opinions of the formation of the universe.

The Chinese, according to their own fabulous annals, which we have already examined in our article *CHINA*, were the first of the nations. Their records reach upwards many myriads of years before the creation. Fohi is said to have laid the foundation of the empire about 4000 years ago. This emperor, according to the Chinese, was conceived in a miraculous manner. He was half a man and half a serpent. His intellectual powers were truly hyperbolic. In one day he discovered fifty different species of poisonous herbs. He taught his countrymen the art of agriculture. He invented boats and nets for fishing, the art of fabricating porcelain, the management of silk-worms, the manufacturing of silk, &c. He composed that incomparable body of laws which are still the wonder of the Chinese. This whole detail is fabulous; but the Chinese, in ascribing the invention of all the

useful arts to Fohi, resemble the other nations of antiquity. The Indians ascribe every invention to Budha, Vishnou, or Foe: the Persians to Zoroaster; the Chaldeans to Oannes; the Egyptians to Thoth; the Phœnicians to Melicerta; the Greeks to the family of the Titans; and the Scandinavians to Odin, &c.

About A. A. C. 551 appeared the famous Chinese philosopher Con-fu-tse, or Confucius. Concerning the birth of this prince of philosophers, the Chinese have the following legend:—His mother, walking in a solitary place, was impregnated by the vivifying influence of the heavens. The babe, thus produced, spake and reasoned as soon as he was born. Confucius, however, wrought no miracles, performed no romantic exploits, but lived an austere ascetic life, inculcated morality, and died, remarkable only for superior wisdom, religious, moral, and political.

About A. D. 601 flourished the sectary Lao-Kiun. His mother carried him thirty years in her womb, and was at last delivered of him under a plum-tree. This philosopher was the Epicurus of the Chinese. His disciples, who were denominated Tao-tse, i. e. heavenly doctors, were the first who corrupted the religion of the Chinese. Their doctrine was embraced by many of the emperors. One of these, called Youti, had lost a favorite mistress, whom he loved with the most extravagant passion. By the magical skill of one of these doctors he obtained an interview with his deceased mistress; a circumstance which rivetted the whole order in the affection of the deluded prince. This fable is a counterpart of that of Orpheus and Eurydice.

The worship of the idol Foe was transplanted from India into China about A. D. 65. The doctrine and worship of Foe made a most rapid progress all over China, Japan, Siam, &c. The priests of Foe are called among the Siamese talapoin; by the Tartars lamas; by the Chinese ho-chang; and by the people of Japan bonzes. An incredible number of fables were invented and propagated by the disciples of Foe, concerning their master. If the earlier ages of the Chinese history are barren of mythological incidents, the later periods, after the introduction of the worship of Foe, furnish an inexhaustible store of miracles, monsters, fables, intrigues, exploits, and adventures, of the most villanous complexion. Indeed, most of them are so absurd, ridiculous, impious, and profane, that our readers will easily dispense with a detail, from which they could reap neither entertainment nor instruction.

The Hindoos, like the other nations of the east, for a long time retained the worship of the true God. At length, however, idolatry broke in, and, like an impetuous torrent, overwhelmed the country. The genuine history of the origin of the universe was either utterly lost, or disguised under a variety of fictions. We are told that Bramha, the supreme divinity of the Hindoos, created four persons, whom he appointed to rule over all the inferior creatures. Afterwards he joined his efficient power with Bishon and Rulder; and by their united exertions they produced ten

men, whose general appellation is Munies, that is, the inspired. According to another mythology, Brahma produced four other persons, one from his breast, one from his back, one from his lip, and one from his heart. Another tradition respecting the origin of the four great tribes is mentioned under the article GENTOO; and accounts for the four castes or septis into which the Hindoo nation has from time immemorial been divided.

The Hindoos have likewise some mythological opinions which seem to relate to the general deluge. They tell us, that desiring the preservation of herds and of brahmins, of genii and of virtuous men, of vedas of law, and of precious things, the Lord of the universe assumes many bodily shapes; but though he pervades, like the air, a variety of beings, yet he is himself unvaried, since he has no quality in him subject to change. At the close of the last calpa there was a general destruction, occasioned by the sleep of Brahma, whence his creatures in different worlds were drowned in a vast ocean. Brahma being inclined to slumber after so many ages, the strong demon Hayagri-va stole the vedas which flowed from his lips. When Heri, the preserver of the universe, discovered this deed of the prince of Dainavas, he took the shape of a minute fish called Sap-hari. After various transformations, and an enormous increase of size in each of them, the Lord of the universe loving the righteous man called Mana, or Stratavrata, who had still adhered to him under all these various shapes; and, intending to preserve him from the sea of destruction caused by the depravity of the age, thus told him how he was to act:—'In seven days from the present time, O thou tamer of enemies! the three worlds will be plunged in an ocean of death; but in the midst of the destroying waves a large vessel, sent by me for thy use, shall stand before thee.' The remaining part of the mythology so nearly resembles the Mosaic history of Noah and the general deluge, that it appears to have been borrowed from it. To dry up the waters of the deluge, the power of the Deity descends in the form of a boar, the symbol of strength, to draw up and support on his tusks the whole earth, which had been sunk beneath the ocean. The same power is represented as a tortoise sustaining the globe, which had been convulsed by the violent assaults of demons, while the gods churned the sea with the mountain Mandar, and forced it to disgorge the sacred things and animals, together with the water of life which it had swallowed. All these stories relate to the same event, shadowed by a moral, a metaphysical, and an astronomical allegory; and all seem connected with the hieroglyphical sculptures of the ancient Egyptians.

The Hindoos divide the duration of the world into four yugs, or jogues, each consisting of a prodigious number of years. See GENTOO and JOGUES. According to the mythology of the Hindoos, the system of the world is subject to various dissolutions and resuscitations. At the conclusion of the Collee Jogue, say they, a grand revolution will take place, when the solar system will be consumed by fire, and all the elements reduced to their original constitu-

ent atoms. Upon the back of these revolutions Brahma is sometimes represented as a new-born infant, with his toe in his mouth, floating on a camala, or water-flower, sometimes only on a leaf of that plant, on the surface of the vast abyss. At other times he is figured as coming forth of a winding-shell; and again as blowing up the mundane foam with a pipe at his mouth.

The vulgar religion of the ancient Hindoos opens a large field of mythological adventures. The Fo or Foe of the Chinese was imported from India. His followers relate, that he was born in a kingdom of India near the line, and that his father was of that country. His mother brought him forth by the left side, and expired soon after her delivery. At the time of her conception, she dreamed that she had swallowed a white elephant, a circumstance which has given birth to the veneration which the monarchs of India have always shown for a white elephant. As soon as he was born he stood erect without assistance. He walked abroad at seven, and pointing with one hand to the heavens, and with the other to the earth, he cried out, 'In the heavens, and on the earth, there is no one but I who deserves to be honored.' At the age of thirty he felt himself filled with the divinity; and now he was metamorphosed into Fo or Pagod. He now began to propagate his doctrine, and prove his divine mission by miracles. The number of his disciples was immense; and they soon spread his dogmas over all India, and even to the extremities of Asia.

One of the principal doctrines which Fo and his disciples propagated was the metempsychosis or transmigration of souls; which has given rise to the multitude of idols revered in every country where the worship of Fo is established. Quadrupeds, birds, reptiles, and the vilest animals, had temples erected for them; because, say they, the soul of the god, in his numerous transmigrations, may have at one time or other inhabited their bodies. Both transmigration and the worship of animals seem, however, to have been imported from Egypt into India. The former was early established among the Egyptians. It was, indeed, the only idea they had of the soul's immortality. The worship of animals seems to have been still more ancient. That colonies of Egyptians did actually penetrate into India and settle there, many centuries before the nativity, is an undoubted fact. From the hieroglyphical representations of the Egyptian deities seem to have originated those monstrous idols, which from time immemorial have been worshipped in India, China, Japan, Siam, and the remotest parts of Asiatic Tartary. See POLYTHEISM.

Foe is often called Budha, Budda, and Vishnou. Vast numbers of fables were propagated by his disciples concerning him after his death. They pretended that he was still alive; that he had been already born 8000 times, and that he had successively appeared under the figure of an ape, a lion, a dragon, an elephant, a boar, &c. These were called the incarnations of Vishnou. At length he was confounded with the supreme God; and all the titles, attributes, operations, perfections, and ensigns of the Most High

were ascribed to him. Sometimes he is called Amida, represented with the head of a dog, and worshipped as the guardian of mankind. He sometimes appears as a princely personage, issuing from the mouth of a fish. At other times he has a lunette on his head, in which are seen cities, mountains, towers, trees, and all that the world contains. These transformations were evidently derived from allegorical or hieroglyphical emblems, and form an exact counterpart to the symbolical worship of the Egyptians. The enormous mass of mythological traditions which have deluged the vast continent of India would fill many volumes. The preceding articles afford a specimen, by which our readers may judge of the rest. If they wish to gratify their curiosity at greater length they may consult Thevenot's and Hamilton's Travels, Anquetil's Zendavesta, Halhed's Introduction to his translation of the Code of Gentoo Laws, Col. Dow's History of Hindostan, and more particularly Asiatic Researches.

The mythology of the Persians is, if possible, still more extravagant than that of the Hindoos. It supposes the world to have been repeatedly destroyed, and re-peopled by creatures of different formation, who were successively annihilated or banished for their disobedience to the Supreme Being. The monstrous griffin Sinergh tells the hero Calerman that she had already lived to see the earth seven times filled with creatures, and seven times a perfect void; that before the creation of Adam this globe was inhabited by two races of beings, called Peri and Dives, whose characters formed a perfect contrast. The Peri are described as beautiful and benevolent; the Dives as deformed, malevolent, and mischievous, differing from infernal demons only in this, that they are not yet confined to hell. They are ever ranging over the world to scatter discord and misery among men. The Peri resemble the fairies of Europe; and the Dives the giants and magicians of the middle ages. The Peri and Dives wage incessant wars; and, when the Dives make any of the Peri prisoners, they shut them up in iron cages, and hang them on the highest trees, to expose them to the fury of every chilling blast. When the Peri are in danger of being overpowered by their foes they solicit the assistance of some mortal hero; which produces a series of mythological adventures, highly ornamental to the strains of the Persian bards, and furnishing an inexhaustible fund of the most diversified machinery.

One of the most celebrated adventures in the mythology of Persia is Tahmuras, one of their most ancient monarchs. This prince performs a variety of exploits while he endeavours to recover the fairy Merjan. He attacks the Dive Demrush in his own cave; where, having vanquished the demon, he finds vast piles of hoarded wealth, which he carries off with the fair captive. The battles, labors, and adventures of Rostan, another Persian worthy, are celebrated by the Persian bards with the same extravagance of hyperbole with which the labors of Hercules have been sung by the poets of Greece and Rome. The adventures of the Persian heroes breathe all the wildness of achievement recorded of the knights

of Gothic romance. The enchantments, transformations, &c., exhibited in both, are characteristic symptoms of one common original. Perhaps the tales of the wars of the Peri and Dives originated from a vague tradition concerning good and bad angels; and probably the fable of the wars between the gods and giants, so famous in the mythology of Greece and Rome, was imported into the former country from the same quarter. For a more particular account of the Persian mythology our readers may consult Dr. Hyde De Relig. vet. Pers. Medor. &c., Dr. Herbelot's Bibl. Orient. &c., &c.

The mythology of the Chaldeans commences at a period myriads of years prior to the era of the Mosaic creation. Their cosmogony, exhibited by Berosus, priest of Belus, deeply versed in the antiquities of his country, is a most extravagant piece of mythology. It has been copied by Eusebius (Chron. l. i. p. 5), as well as by Syncellus, from Alexander Polyhistor. According to this historian there were at Babylon written records, preserved with the greatest care, comprehending a period of fifteen myriads of years. Those writings likewise contained a history of the heavens, earth, and sea, and of the origin of mankind. 'In the beginning,' says Berosus, copying from Oannes, 'there was nothing but darkness and an abyss of water, wherein resided most hideous beings produced from a twofold principle. Men appeared with two wings; some with two and some with four faces. They had one body but two heads; the one of a man, the other of a woman. Other human figures were furnished with the legs and horns of goats. Some had the feet of horses behind, but before were fashioned like men, resembling hippocentaur.' The remaining part of this mythology is much of the same complexion; indeed so extravagant that we suppose our readers will dispense with the sequel. 'Of all these,' says the author, 'were preserved delineations in the temple of Belus at Babylon. The person who was supposed to preside over them was called Omorea. This word, in the Chaldean language, is Thalath, which the Greeks call *θαλασσα*, but it properly imports the moon. Matters being in this situation, their god, says Eusebius, came and cut the woman asunder; and out of one half of her he formed the earth, and out of the other the heavens; and he destroyed the monsters of the abyss.' This whole mythology is an allegorical history copied from hieroglyphical representations, the real purport of which could not be decyphered by the author. Such, in general, were the consequences of the hieroglyphical style of writing.

Oannes, the great civiliser and legislator of the Chaldeans, according to Apollodorus, who copied from Berosus, was an amphibious animal of a heterogeneous appearance. He was endowed with reason, and a very uncommon acuteness of parts. His body resembled a fish. Under the head of a fish he had also another head, and feet below similar to those of a man, subjoined to the tail of the fish. His voice and language were articulate, and perfectly intelligible, and there was a figure of him extant in the days of Berosus. He made his appearance in the Red Sea

where it borders upon Babylonia. This monstrous being conversed with men by day; but at night he plunged into the sea, and remained in the water till next morning. He instructed the Babylonians in the use of letters, and the knowledge of all the arts and sciences. He taught them to build houses, temples, and other edifices. He gave them laws and religion, and taught them mathematics, geometry, astronomy, &c. Helladius is of opinion that this strange personage was represented under the figure of a fish because he was clothed with the skin of a seal. The idea of the monster compounded of the man and the fish has originated from some hieroglyphic of that form; or, perhaps, from Oannes having invented fishing or navigation. Mr. Bryant thinks that Oannes was actually Noah; who settled in Shinar or Chaldea after the deluge, and who, in consequence of his connexion with that event, might be properly represented under the emblem of the man of the sea. See DELUGE.

The nativity of Venus, the goddess of beauty and love, is another piece of mythology famous among the Babylonians and Assyrians. An egg, say they, of a prodigious size, dropt from heaven into the Euphrates. Some doves settled upon this egg after the fishes had rolled it to the bank. In a short time this egg produced Venus, who was afterwards called *Dea Syria*, the Syrian goddess. From this tradition, says Hyginus, pigeons and fishes became sacred to this goddess among the Syrians, who always abstained from eating them. Of this imaginary being we have a very exact and entertaining history in the treatise *De Deâ Syriâ*, ascribed to Lucian. In this mythological tradition there seems an allusion to the celebrated Mundane egg; and a connexion between the sea and the moon. This same deity was the *Atergatis* of Ascalon, described by Diodorus the Sicilian; the one half of her body a woman, and the other a fish. See *ATERGATIS*. This was a hieroglyphic figure of the moon, importing the influence of that planet upon the sea and the sex. The oriental name of this deity evidently points to the moon; for it is compounded of two Hebrew words, viz. *Adar*, magnificent, and *Gad*, a troop; which import the queen of the host of heaven.

The fable of Semiramis is nearly connected with the preceding. Diodorus Siculus has preserved the mythological history of this deity, which he and all the writers of antiquity have confounded with the Babylonian princess of that name. That historian informs us that Semiramis, in the Syrian dialect, signifies a wild pigeon; but we apprehend that this term was a name of the moon, as it is compounded of two words of an import applicable to that planet, viz. *Sem*, a sign, and *ramah*, high. It was a general practice among the orientals to denominate their sacred animals from that deity to which they were consecrated. Hence the moon being called Semiramis, and the pigeon being sacred to her divinity, the latter was called by the name of the former. We refer our readers for further information on this subject to Diod. Sic. l. ii.; Hyginus Poet. Astron. lib. 197; Pharmitus de Nat. Deor. Ovid. Metam. l. iv.; Athen. in Apol. Tzetzes Chil. ix. cap. 275; Seld. de Diis Syr. ii. p. 183.

We shall now proceed to the mythology of the Arabians; but the greatest part of it is buried in the abyss of ages. The Arabs have always been enthusiastically addicted to poetry, of which fable is the essence. In the Koran we meet with frequent allusions to traditional fables. These have been transmitted from generation to generation by the bards and rhapsodists for the entertainment of the people. In Arabia, from the earliest ages, it has always been one of their favorite amusements, to assemble in the serene evenings round their tents, or on the platforms upon their houses, to amuse themselves with traditional narrations of the actions of their remote ancestors. Oriental imagery embellished their romantic details. The glow of fancy, the love of the marvellous, the propensity towards the hyperbolical, which constitute the essence of oriental description, must ever have drawn the relation aside into the regions of fiction. The religion of Mahomet beat down the original fabric of idolatry and mythology. The Arabian fables, current in modern times, are borrowed or imitated from Persian compositions; Persia being still the grand nursery of romance in the east.

In Egypt we find idolatry, theology, and mythology, almost inseparably blended. The inhabitants of this region and its vicinity adhered for several centuries to the worship of the true God. At last, however, from an affected sense of their own ignorance, impurity, imperfection, and unfitness to approach an infinitely perfect Being, they began to look for some beings more perfect than themselves, by whose mediation they might offer their prayers to the supreme Majesty of heaven. The celestial luminaries, which they imagined were animated bodies, were thought to partake of the divine nature: they were revered as the representatives of the Lord of the universe; they were visible, they were beneficent; they dwelt nearer to the gods. These were, of course, employed as mediators between the supreme Divinity and his humble subjects; and a subordinate share of worship was assigned them. In time, however, that worship which was originally addressed to the supreme Creator, by the mediation of the heavenly bodies, ultimately terminated on those illustrious creatures. To this circumstance we may ascribe the origin of that species of idolatry called Zabiism, or the worship of the host of heaven, which overspread the world early and almost universally. In Egypt this mode of worship was adopted in all its most absurd forms; and the most heterogeneous mythology appeared in its train. The mythology of the ancient Egyptians was so various and multiform, so complicated and so mysterious, that it would require many volumes even to give a superficial account of its origin and progress. We shall, therefore, only mention some of the most interesting articles of this complicated system.

The Egyptians confounded the revolutions of the heavenly bodies with the reigns of their most early monarchs. Hence the incredible number of years in the reigns of their eight superior gods, who, according to them, filled the Egyptian throne successively in the most early

periods of time. To these, according to their system, succeeded twelve demigods, who likewise reigned an amazing number of years. These imaginary reigns were merely the periodical revolutions of the heavenly bodies. Hence the fabulous antiquity of that kingdom. The imaginary exploits and adventures of these gods and demigods furnished an inexhaustible fund of mythological romances. To the demigods succeeded the kings of the cynic cycle, personages equally chimerical with the former. After these princes came another race, denominated Nekyes, a title implying royal, splendid, glorious. These cycles figure high in the mythological annals of Egypt, and have furnished materials for a variety of learned disquisitions. The wars and adventures of Osiris, Orus, Typhon, and other allegorical personages; the wanderings of Isis; the transformations of the gods into various animals; their birth, education, peregrinations, and exploits;—compose a body of mythological fictions, so complicated, so ridiculous, and often so absurd, that all attempts to explain them have hitherto proved unsuccessful. All those extravagant fables are the offspring of hieroglyphical or allegorical emblems, devised by the priests and sages of that nation, to conceal the mysteries of their religion from the inferior ranks. See MYSTERIES.

The worship of brutes and of certain vegetables, universal among the Egyptians, was another exuberant source of mythological adventures. The Egyptian priests, many of whom were profound philosophers, observed a kind of analogy between the qualities of certain animals and vegetables, and those of some of their subordinate divinities. These they consecrated to the deities to whom they were supposed to bear this analogy, and in time they considered them as the visible emblems of those divinities. By these the vulgar addressed their archetypes; and in time, forgetting the emblematical character of those brutes and vegetables, addressed their devotion immediately to them. After these animals were consecrated as the visible symbols of the deities, they began to use their figures to represent those deities. Hence Jupiter Ammon was represented under the figure of a ram, Apis under that of a cow, Osiris of a bull, Pan of a goat, Thoth of an ibis, Bubastis or Diana of a cat, &c. It was likewise a common practice to dignify those objects by the names of those deities which they represented. Thus the veneration of the people was enhanced, and the ardor of their devotion inflamed. From these sources are derived the fabulous transformations of the gods, so generally celebrated in the Egyptian mythology, and from Egypt imported into Greece and Italy.

Their Thoth, or Mercurius Trismegistus, was the inventor of this unhappy system. He was esteemed the original author of letters, geometry, astronomy, music, architecture; of all the elegant and useful arts, and of all the branches of science and philosophy. He first discovered the analogy between the divine affections, influences, appearances, operations, and the corresponding properties, qualities, and instincts of certain animals, and the propriety of dedicating particular

vegetables to particular deities. The priests, whose province it was to expound the mysteries of that allegorical hieroglyphical religion, gradually lost all knowledge of the primary import of the symbolical characters. To supply this defect, and to veil their own ignorance, they had recourse to fable and fiction. They heaped fable upon fable, till their religion became an accumulated chaos of mythological absurdities.

Two of the most learned and acute of the ancient philosophers attempted an explication of the Egyptian mythology, but both have failed; nor have modern critics who have made similar attempts had much better success. Instead, therefore, of prosecuting this inexplicable subject, we refer those who wish for further information to Herodotus, lib. ii.; Diodorus Siculus, lib. i. Plut. Isis and Osiris; Jamblichus de Myst. Egypt. Horapollo Hieroglyp. Egypt. Macrob. Sat. cap. 23. Kircher's Oedip. Voss. de Orig. et Prog. Idol. Bryant's Analysis of anc. Mythol. M. Gebelin Monde prim.; and to the learned Jablonsk's Panth. Egvptiorum.

The elements of Phœnician mythology have been preserved by Eusebius in his *Præp. Evang.* In the large extract, which that learned father has copied from Philo-Biblius's translation of Sanchoniatho's History of Phœnicia, are several articles of mythology, which throw considerable light on several passages of the sacred history; and all of them are strictly connected with the mythology of the Greeks and Romans. They contain a brief but entertaining detail of the fabulous adventures of Uranus, Cronus, Dagon, Thyoth, Muth or Pluto, Æphestus or Vulcan, Æsculapius, Nereus, Poscedon or Neptune, &c. Astarte, or Venus Urania, makes a conspicuous figure in the catalogues of Phœnician deities; Pallas is planted on the territory of Attica; in a word, all the branches of the family of the Titans, who in after ages figured in the rubric of the Greeks, are brought upon the stage, and their exploits briefly detailed.

By comparing 'this fragment with the mythology of the Atlantidæ, and that of the Cretans preserved by Diodorus the Sicilian (lib. v.) there is reason to conclude that the family of the Titans, the several branches of which seem to have been both the authors and objects of a great part of the Grecian idolatry, originally emigrated from Phœnicia. Almost all their names, in the fabulous records of Greece, may be easily traced up to a Phœnician original. We agree with Herodotus, that a considerable part of the idolatry of Greece may have been borrowed from the Egyptians; but it is highly probable that the idolatry of the Egyptians and that of the Phœnicians were, in their original constitution, nearly the same. Both systems were Sabiism, or the worship of the host of heaven.

The adventures of Jupiter, Juno, Mercury, Apollo, Diana, Mars, Minerva, Venus, Bacchus, Ceres, Proserpine, Pluto, Neptune, and the other descendants of the ambitious family of the Titans, furnish the greatest part of the mythology of Greece. They left Phœnicia about the age of Moses; they settled in Crete, whence they made their way into Greece, which was then inhabited by savages. The arts and in

ventions which they communicated to the natives; the mysteries of religion which they inculcated; the laws, customs, polity, and good order, which they established; in short, the blessings of humanity and civilisation, which they every where disseminated, in process of time inspired the unpolished inhabitants with a kind of religious admiration. Those ambitious mortals improved this admiration into divine homage. The greater part of that worship, which had been formerly addressed to the luminaries of heaven, was now transferred to those illustrious personages. They claimed and obtained divine honors from the deluded rabble of enthusiastic Greeks. Hence sprung an inexhaustible fund of the most inconsistent fictions.

The foibles and frailties of the deified mortals were transmitted to posterity, incorporated with the pompous attributes of divinity. Hence the heterogeneous mixture of the mighty and the mean which chequers the characters of the gods and heroes of the Iliad and Odyssey. The Greeks adopted the oriental fables; the import of which they did not understand. These they accommodated to heroes and illustrious personages, who had figured in their own country in the earliest periods. The labors of Hercules originated in Egypt, and relate to the annual progress of the sun in the zodiac; but the vain-glorious Greeks accommodated them to a hero of their own, the reputed son of Jupiter and Alcmena. The expedition of Osiris they borrowed from the Egyptians, and transferred to their Bacchus, the son of Jupiter and Semele, the daughter of Cadmus. The transformation and wanderings of Io seem evidently transcribed from the Egyptian romance of the travels of Isis in quest of the body of Osiris, or of the Phœnician Astarte, drawn from Sanchoniathon. Io or Ioh is in reality the Egyptian name of the moon, and Astarte was the name of the same planet among the Phœnicians. See ASHTAROTH. Both these fables are allegorical representations of the anomalies of that planet. The fable of the conflagration occasioned by Phaeton is clearly of oriental extraction, and alludes to an excessive drought, which anciently scorched Ethiopia and the adjacent countries. The adventures of Perseus are said to have happened in the same regions, and are allegorical representations of the influence of the solar luminary; for the original Perseus was the sun. The rape of Proserpine and the wanderings of Ceres; the Eleusinian mysteries; the orgia of Bacchus; the rites and worship of the Cabiri, were imported from Egypt and Phœnicia; but strangely garbled and disfigured by the hierophants of Greece. The gigantomachia, or war between the gods and the giants, and all the fabulous events of that war, form a counterpart to the battles of the Peri and Dives, celebrated in the romantic annals of Persia.

A considerable part of the mythology of the Greeks sprung from their ignorance of the oriental languages. They disdained to study the languages spoken by people whom, in their pride, they styled barbarians. This aversion to every foreign dialect was highly detrimental to their progress in the sciences. The same neg-

lect or aversion has proved an irreparable injury to the republic of letters in all ages. The Aoids, or strolling bards, laid hold on these oriental legends, which they sophisticated with their own additions, to accommodate them to the popular taste. These wonderful tales figured in their rhapsodical compositions, and were greedily swallowed by the credulous vulgar. Those fictions were constantly augmented with fresh materials, till in time their original import was either forgotten or buried in impenetrable darkness. A multitude of these Hesiod has collected into his Theogonia, or Generation of the gods, which unhappily became the religious creed of the illiterate part of the Greeks.

The far-famed oracle of Dodona was copied from that of Ammon of Thebes in Egypt: the oracle of Apollo at Delphos was an emanation from the same source. The celebrated Apollo Pythius of the Greeks was no other than Ob or Aub of the Egyptians, who denominated the basilisk or royal snake *Ob Cai*, because it was held sacred to the sun. Ob or Aub is still retained in the Coptic dialect, and is one of the many names or epithets of that luminary. In short, the ground-work of the Grecian mythology is to be traced in the east. Only a small part of it was fabricated in the country; and what was imported pure and genuine was miserably sophisticated by the hands through which it passed, to accommodate it to the Grecian taste.

The Roman mythology was borrowed from the Greeks. That people had addicted themselves for many centuries to war and civil polity. Science and philosophy were either neglected or unknown. At last they conquered Greece, the native land of science, and then 'Græcia capta ferum victorem cepit arte, et intulit agresti Latio.' This being the case, their mythology was, upon the whole, a transcript from that of Greece. They had indeed previously gleaned a few fables from the Pelasgi and Etruscans.

The mythology of the Celtic nations is in a great measure lost. There may still remain some vestiges of the Druidical superstitions in the remotest parts of the Highlands and islands of Scotland; and in the uncivilised places of Ireland. These, we presume, would afford little entertainment, and less instruction.

The mythology of the Norwegians, Danes, Swedes, Icelanders, &c., are uncommonly curious and entertaining. The Edda and Voluspa contain a complete collection of fables, which have not the smallest affinity with those of the Greeks and Romans. The Edda was compiled in Iceland in the thirteenth century. It is a kind of system of the Scandinavian mythology; and has been reckoned a commentary on the Voluspa, which was the bible of the Northern nations. Odin, Othin, Woden or Wodan, was the supreme divinity of those people. His exploits and adventures furnish the far greatest part of their mythological creed. That hero is supposed to have emigrated from the east; not from what country or at what period is not known. His achievements are magnified beyond all credibility. He is represented as the god of battles, and as slaughtering thousands at a blow. His palace is called Valhalla; it is situated in the city

of Midgard, where, according to the fable, the souls of heroes who had bravely fallen in battle enjoy supreme felicity. They spend the day in mimic hunting-matches, or imaginary combats. At night they assemble in the palace of Valhalla, where they feast on the most delicious viands, dressed and served up by the Valkyriæ, virgins adorned with celestial charms, and flushed with the bloom of everlasting youth. They solace themselves with drinking mead out of the skulls of enemies whom they killed in their days of nature. Mead was the nectar of the Scandinavian heroes.

Sleipner, the eight-legged steed of Ódin, is celebrated along with his master. Hela, the hell of the Scandinavians, affords a variety of fables equally shocking and heterogeneous. Lok, the evil genius or devil of the northern people, nearly resembles the typhon of the Egyptians. Signa or Sinna is the consort of Lok; from which name the English word sin is derived. The giants Weymur, Ferbanter, Belupher, and Hellunda, perform a variety of exploits, and are exhibited in the most frightful attitudes. They perform the counterpart of the giants of the Greek and Roman mythologists. Without enlarging on these ridiculous and uninteresting fables, we shall give a brief account of the contents of Voluspa, which is indeed the text of the Scandinavian mythology.

The word Voluspa imports, the prophecy of Vola or Fola. This was perhaps a general name for the prophetic ladies of the north, as Sybil was appropriated to women endowed with the like faculty in the south. Certain it is, that the ancients generally connected madness with the prophetic faculty. Of this we have two celebrated examples; the one in Lycophron's Alexandria, and the other in the Sybil of the Roman poet. The word vola signifies mad or foolish; whence the English words fool, foolish, folly. Spa signifies to prophecy, and is still current in Scotland in the word spæ, which has the same signification. The voluspa consists of between 200 and 300 lines. The prophetess, having imposed silence on all intelligent beings, declares that she is about to reveal the works of the father of nature, the actions and operations of the gods, which no mortal ever knew before herself. She then begins with a description of the chaos; and then proceeds to the formation of the world, the creation of the different species of its inhabitants, giants, men, and dwarfs. She then explains the employments of the fairies or destinies, whom the northern people call nornies; the functions of the deities, their most memorable adventures, their disputes with Lok, and the vengeance that ensued. She at last concludes with a long and animated description of the final state of the universe, and its dissolution by a general conflagration.

In this catastrophe, Odin, and all the rabble of the pagan divinities, are to be confounded in the general ruin, no more to appear on the stage

of the universe. Out of the ruins of the former world, according to the Voluspa, a new one shall spring up, arrayed in all the bloom of celestial beauty. Such is the doctrine exhibited in the fabulous Voluspa.

In America the only mythological countries were Mexico and Peru. The other parts of that large continent were originally inhabited by savages, most of them as remote from religion as from civilisation. The two vast empires of Mexico and Peru had existed about 400 years only before the Spanish invasion. In neither of them was the use of letters understood; and of course the ancient opinions of the natives relating to the origin of the universe, the changes which succeeded, and every other monument of antiquity, were obliterated and lost. Clavigero has indeed enumerated a vast canaille of sanguinary gods worshipped by the Mexicans; but produces nothing either entertaining or interesting with respect to their mythology. The information to be derived from any other quarter is little to be depended upon. It passes through the hands of bigoted missionaries or other ecclesiastics who were so deeply tinctured with fanaticism, that they viewed every action, every sentiment, every custom, every religious opinion and ceremony of those half-civilised people, through a false medium. They often imagined they discovered resemblances and analogies between the rites of those savages and the dogmas of Christianity, which no where existed but in their own heated imagination.

The only remarkable piece of mythology, in the annals of the Peruvians, is the pretended extraction of Manco Capac, the first inca of Peru, and of Mama Ocolla his consort. These two illustrious personages appeared first on the banks of the lake Titiacca. They were persons of a majestic stature, and clothed in decent garments. They declared themselves to be the children of the sun, sent by their beneficent parent, who beheld with pity the miseries of the human race, to instruct and to reclaim them. Thus we find these two legislators availed themselves of a pretence which has often been employed in more civilised regions to the very same purposes. The idolatry of Peru was gentle and beneficent; that of Mexico gloomy and sanguinary. Hence we may see that every mode of superstition, where a divine revelation is not concerned, borrows its complexion from the characters of its professors.

In this article, for which we are greatly indebted to the late Dr. Doig of Stirling, we have not much enlarged upon the mythology of the Greeks and Romans; that subject being so universally understood by the learned that a minute discussion of it would be superfluous; more especially as it is sufficiently noticed in this work, under the respective names of the numerous gods, demigods, and heroes, who were celebrated in the ancient Grecian and Roman mythology. See JUPITER, APOLLO, HERCULES, MARS, &c., in their alphabetical places.

MYTILENE or Lesbos, an island of the Grecian Archipelago, celebrated as the birth-place of Sappho and Theocritus, Arion, Terpander, &c. See LESBOS. We may add here that the chief town, named Metelin or Castro, is on the south-east, and stands on a peninsula forming two ports. The northernmost is sheltered by a pier to the north, and receives small vessels, the south is only fit for boats, and vessels of burden are obliged to anchor in the roads, entirely exposed to the north-east. The town is surrounded by a double wall flanked with towers, and has a citadel, formerly garrisoned with 500 Janissaries.

Port Yero, near the south-east point of the island, or the Port of Olives, is one of the most spacious and safe harbours of the Archipelago, and abounds with excellent oysters. Port Caloni, on the south-west, is also a large and safe road, but little frequented. Port Sigrì (Antissa), at the west end, is an excellent harbour, sheltered by a little island (Neriope).

MYTILUS, the mussel, in ichthyology, a genus of animals, belonging to the order of vermes testacea. The animal is an ascidia; the shell bivalve; often affixed to some substance by a beard; the hinge without a tooth, marked by a longitudinal line. Of these animals there are sixty species, some of them inhabiting the seas, others the rivers and ponds. Several of them are remarkable for the beauty of their internal shell, and for the pearls which are sometimes found in them.

1. *M. anatinus*, the duck-mussel, has a shell more oblong and less convex than the swan-mussel, is very brittle, and semitransparent; the space round the hinges like the swan; the length about five inches, breadth two. It is found in Europe in fresh waters. Both it and the swan are devoured by swans and ducks; whence their names; crows also feed on these mussels, as well as on different other shell-fish; and, when the shell is too hard for their bills, they fly with it to a great height, drop the shell on a rock, and pick out the meat when the shell is fractured by the fall.

2. *M. christagalli*, the cock's-comb mussel, has the shell folded or plaited as it were, spiny, and both lips rugged. It makes its abode in the coral beds of the Indian Ocean.

3. *M. cygneus*, the swan-mussel, with a thin brittle shell, very broad and convex, marked with concentric striæ; attenuated towards one end, dilated towards the other; descorticated about the hinge; the color a dull green; the length six inches, breadth three and a half. It is an inhabitant of the European rivers, frequenting chiefly their mouths. Fresh water mussels are not so good eating as the sea-mussel. The river mussel, according to M. Poupert, swims in the water, and sometimes appears to flutter on its surface. But we believe it more commonly creeps in the mud, where it remains almost always at rest. The pond-mussel is always larger than that which is found in rivers; and it is a more solitary animal. In its motion it makes tracks in the sand and mud, and it penetrates into it two or three inches, and sometimes more. Pearls of considerable beauty are found in several river-

mussels; of this kind are the Scotch mussels, those of Valognes in Lorraine, of St. Savinier of Bavaria, and of the marshes near Augsburg.

4. *M. edulis*, the edible mussel, has a strong shell, slightly incurvated on one side, and angulated on the other. The end near the hinge is pointed, the other rounded. When the epidermis is taken off, it is of a deep blue color. It is found in immense beds, both in deep water and above low-water mark. The finest mussels in Britain are those called Hambleton hookers, from a village called Hambleton. They are taken out of the sea, and placed in the river Wier, within reach of the tide, where they grow very fat. This species inhabits the European and Indian seas. Between the tropics it is largest, and smallest within the polar circle. This species has, from its being for the most part fastened to the rocks, been supposed by many wholly incapable of progressive motion; but this M. Reaumur has shown to be an erroneous opinion. It is a common practice in France, at such seasons of the year as do not afford sun enough to make salt, to throw the common sea-mussels, which the fishermen catch about the coasts, into the brine pits, to render their flesh more tender and delicate, as the rain, which falls at these seasons, makes the water of the pits much less salt than the sea-water. The mussels are on this occasion thrown carelessly in, in several different parts of the pits; yet, at whatever distances they have been thrown in, the fishermen, when they go to take them out, always find them in a cluster together; and as there is no current of water in these places, nor any other power of motion which can have brought the mussels together, it is evident that they must voluntarily have marched from the places where they were at first, to have met thus together. This progressive motion is performed by means of what we call the tongue of the mussel, from its shape; but, from its use in this case, it appears rather to merit the name of a leg, or an arm, as by laying hold of any distant substance, and then forcibly contracting itself again, it draws along the whole body of the animal. The same part, when it has moved the animal to a proper place, serves also to fix it there, being the organ by which it spins the threads which we call its beard, by which it is held to a rock, or to another mussel. The motion of the mussel, by means of this part, is just the same with that of a man laid flat on his belly, who would draw himself along by laying hold of any thing with one hand, and then drawing himself to it. Mussels not only open and shut their shells at pleasure, but they respire water like fishes; and some even flutter about on its surface to inhale air. If they lie in shallow places, a small circular motion is seen above the heel of the shell; and a few moments after, they cast out the water by one single stroke at the other end of the shell. The mouth is situated near the sharp angle of the animal, and is furnished with four floating fringes in the shape of mustachios, which perhaps answer the purpose of lips. The barbs, which surround the edge of almost half the mussel, are a web of hollow fibres which serve as fins or organs of respiration, as vessels for the circulation of the fluids, and pro-

bably, as wedges for opening their shells; for we observe two large muscles or tendons for the purpose of shutting them; but we in vain look for their antagonists, or those which are destined to open them. When the mussel wishes to open itself, it relaxes the two muscles or tendons, and swells the fringes, which act as wedges and separate the shells. The animal shuts up itself by the contraction of two thick fibrous muscles which are fixed internally to each end of the shells; and these shells are lined all around with a membrane or epidermis, which unites them so closely together when they are soaked in water, that not the smallest drop can escape from the mussel. When mussels choose to move, they often contrive to raise themselves on the sharp edge of their shells, and drag themselves along in a kind of groove or furrow which they form in the sand or mud, and which supports the shell on both sides. In ponds, these furrows are very observable. Mussels are well known to have a power of fastening themselves either to stones, or to one another's shells, in a very firm manner; but the method of doing this was not well understood till M. Reaumur explained it. From the root of the tongue above mentioned, or that part of it which is fastened to the body of the fish, there are produced a great number of threads, which, when fixed to any solid substance, hold the mussel firmly in its place: these threads are usually from an inch to two inches in length, and in thickness from that of a hair to that of a hog's bristle. They issue out of the shell in that part where it naturally opens, and fix themselves to any thing that lies in their way; to stones, to fragments of shells, or, which is the most common case, to the shells of other mussels; whence it happens that there are usually such large quantities of mussels found together. These threads are expanded on every side, and are usually very numerous, 150 having been found issuing from one shell: they serve the office of so many cables; and, each pulling in its proper direction, they keep the mussel fixed against any force that can be offered from whatever part it come. The filaments are well known to all who eat mussels, who ever carefully separate them under the name of the beard; and M. Reaumur has found, that while the animal is living in the sea, if they are all torn away by any accident, the creature has a power of substituting others in their room: he found, that if a quantity of mussels were detached from one another, and put into a vessel of any kind, and in that plunged into the sea, they in a little time fastened themselves both to the sides of the vessel and to one another's shells; the extremity of each thread seemed in this case to serve in the manner of a hand to seize upon any thing that it would fix to, and the other part, which was slenderer and smaller, to do the office of conducting it. To know the manner of the mussels performing this operation, M. Reaumur put some mussels into a vessel in his chamber, and covered them with sea water; he there saw that they soon began to open their shells, and each put forth its arm or tongue, at the root of which these threads grow; they extended and shortened this part several times, and thrust it out every way, often giving

it not less than two inches in length, and trying before, behind, and on every side with it, what were the proper places to fix their threads at: at the end of these trials they let it remain fixed for some time on the spot which they chose for that purpose, and then drawing it back into the shell with great quickness, it was easy to see that they were then fastened by one of these threads to the spot where it had before touched and remained fixed for a few minutes; and in repeating this workmanship the threads are increased in number one at every time, and, being fixed in different places, they sustain the fish at rest against any common force. The several threads were found to be very different from one another; the new formed ones being ever whiter, more glossy, and more transparent than the others; and it appeared on a close examination, that it was not the office of the tongue to convey the old threads one by one to the new places where they were now to be fixed, but that these in reality were now become useless; and that every thread we see now formed, is a new one made at this time; and in fine, that nature has given to some sea fishes, as well as to many land insects, a power of spinning those threads for their necessary uses; and that mussels and the like fish are under water, what caterpillars and spiders are on the land. To be well assured of this, M. Reaumur cut off the beard or old threads of a mussel as close as he could, without injuring the part; and he found that those, whose beards or old threads were cut off, fixed themselves as soon as those in which they were left, and spread their threads to as great a distance every way. When the mechanism of this manufacture was thus far understood, it became a natural desire to enquire into the nature of the part by which it was performed. This tongue, or arm of the fish, whenever it happens to be loosened, or fixed in a wrong place, serves the animal to drag its whole body, shell and all along, and to perform its several motions. It fixes itself to some solid body; and then, strongly contracting its length, the whole fish must necessarily follow it, and be pulled toward the place where it is fixed. This is a use, however, that this part is rarely put to; its chief employment being to spin the threads. Though this body is flat, like a tongue, for the greater part of its length, it is rounded or cylindrical about the base or insertion, and is much smaller there than in any other part: there are several muscular ligaments fastened to it about the root or base, which hold it firmly against the middle of the back of the shell; of these ligaments there are four which are particularly observable, and which serve to move the body in any direction. There runs all along this body a slit or crack, which pierces very deeply into its substance, and divides it as it were into two longitudinal sections; this is properly a canal, and along this is thrown the liquor which serves to form the threads; and it is in this canal or slit that these threads are moulded into their form. Externally this appears only a small crack or slit, because the two fleshy sections of the parts almost meet and cover it; but it is rounded and deep within, and is surrounded with circular fibres. This canal is carried regularly on from the tip of the

tongue to its base, where it becomes cylindrical; the cylinder in this part being no other than a close tube or pipe, in which this open canal terminates. The cylindrical tube contains a round oblong body, of the nature of the threads, except that it is much larger; and from the extremity of this all the threads are produced, this serving as a great cable to which all the other little cordages dispersed towards different parts are fixed. The tube or pipe in which this large thread is lodged seems the reservoir of the liquor of which the other threads are formed; all its internal surface being furnished with glands for its secretion. The mussel, like many other sea fishes, abounds in this liquor; and if at any time one touch with a finger the base of this spinning organ, one draws away with it a viscous liquor in form of several threads, like those of the caterpillar, spider, and the other spinning land animals. The threads fix themselves with equal ease to the most smooth and glossy, as to rougher bodies; if the mussels are kept in glass jars of sea water, they as firmly fasten themselves to the glass as to any other body. Mussels, be they ever so young, have this property of spinning; and by this they fasten themselves in vast numbers to any thing which they find in the sea. M. Reaumur has seen them, when as small as millet-seeds, spin plentifully, though their threads, proportioned to their own weight, are much finer and smaller than those of larger mussels. It is in the spring that mussels lay their eggs; there being none found in them but in winter. M. Leuwenhoek, in several mussels which he dissected, discovered numbers of eggs, or embryo mussels, in the ovary, appearing as plainly as if he had seen them by the naked eye, and all lying with their sharp ends fastened to the string of vessels by which they receive nourishment. The minute eggs or embryos are by the parent placed in due order, and in a very close arrangement on the outside of the shell, where, by means of a gluey matter, they adhere very fast, and continually increase in size and strength, till, becoming perfect mussels, they fall off and shift for themselves, leaving the holes where they were placed behind them. This abundance the mussel shells very plainly show, when examined by the microscope, and sometimes the number is 2000 or 3000 in one shell; but it is not certain that these have been all fixed there by the mussel within; for these fish usually lying in great numbers near one another, the embryos of one are often affixed to the shell of another. The fringed edge of the mussel, which Leuwenhoek calls the beard, has in every the minutest part of it such variety of motions as is inconceivable; for, being composed of longish fibres, each fibre has on both sides a vast number of moving particles. The mussel is infested by several enemies in its own element; according to Reaumur it is in particular the prey of a small shell-fish of the trochus kind. This animal attaches itself to the shell of the mussel, pierces it with a round hole and introduces a sort of tube five or six inches long, which it turns in a spiral direction, and with which it sucks the substance of the mussel. Mussels are also subject to certain diseases, which have been supposed to be the cause of

those bad effects which sometimes happen from eating them. These are stated by Dr. Muehring to be the moss and the scab. The roots of the moss being introduced into the shell, the water penetrates through the openings, and gradually dissolves the mussel. The scab is formed by a sort of tubercles which are produced by the dissolution of the shell. Certain small scabs, which are sometimes found in mussels, likewise tend to make them unwholesome.—The eating of mussels has sometimes produced erysipelatous inflammations, cutaneous eruptions, insupportable itching all over the body, great restlessness and agitation; and though these complaints are easily removed by oil, milk, and emetics, and have seldom or never proved mortal, yet they have an alarming aspect, and make the patient suffer grievously. Some authors pretend that these effects never take place but between the vernal and autumnal equinox; and Dr. Beaurie, of Antwerp, in a memoir on this subject, seems inclined to adopt this opinion; for he recommends abstinence from mussels during May, June, July, and August. The cause of these noxious effects is, he says, altogether accidental. They are occasioned by a species of *stella marina*, a little sea insect pretty common about the mouth of the Scheldt, which sometimes lodges itself in the mussel in quest of food; and whose spawn is so caustic and inflammatory, that, even when applied outwardly to the skin, it produces itchings and swellings that are painful in a high degree. Others impute the disorder in question to an unperceived commencement of putrefaction in the mussel; and there is no sort of putrefaction more noxious and offensive than that of fish. Upon the whole, the eatable mussel, though a rich food, is difficult of digestion. In its best state it is noxious to some constitutions; and when affected by disease is in some degree poisonous. Mussels are apt to do most harm when eaten raw. They ought always to be boiled with onions, well washed with vinegar, and seasoned with pepper; and, even thus qualified, they should not be eaten to excess, or too frequently.

M. lithophagus, the stone-eater, has the shell cylindrical, the extremities both ways being rounded. It inhabits the Indian, European, and Mediterranean Seas, penetrating and eating away marbles, corals, &c. The Indian shell is softer and nearly tough like leather, but the European is more brittle. It works its way into the chalk-stone, by a kind of saw at its head. It is defended from all enemies by prickly scales. In Italy it is prized as a great delicacy, the taste resembling an oyster, but with a far superior flavor. It is mentioned in Smith's Tour. The columns of the temple of Jupiter Serapis, at Puzoli, are perforated by this species. One of them was discovered in England in the centre of a chalk-stone, in August 1801.

M. Margariferous, the pearl-bearing mussel, has the shell compressed and flat, nearly orbicular, the base transverse, and imbricated with dentated coats. It dwells in the ocean of either India. This is the *mater perlaram* of Rumphius, or mother-of-pearl shell. On the inside it is exquisitely polished, and of the whiteness and water of pearl itself. It has also the same lustre

on the outside after the external laminae have been taken off by aquafortis and the lapidary's mill. Mother-of-pearl is used in inlaid works, and in several toys, as snuff-boxes, &c.

M. modiolus, the great mussel, with a strong shell, blunted at the upper end, one side angulated near the middle, from thence dilating towards the end, which is rounded. It dwells in the Mediterranean, Indian, European, and American seas; and its flesh, which is a deep orange color, is eatable. It is the greatest of the mussels known in Britain, being from six to seven inches in length; it lies at great depths, often seizes the baits of ground lines, and is taken up with the hooks.

M. violacea, the violet mussel, has the shell longitudinally furrowed, the rim very obtuse, somewhat formed like the *mytilus edulis*, but considerably larger and more flattened, of a beautiful violet color. Inhabits the Southern Ocean.

MYTTOTON, a coarse kind of food, used by the laboring people among the Greeks, and sometimes among the Romans. It was made of garlic, onions, eggs, cheese, oil, and vinegar, and reckoned very wholesome.

MYUS, in ancient geography, one of the twelve

towns of Ionia; seated on the Mæander, at the distance of thirty stadia from the sea. In Strabo's time it was incorporated with the Milesians, on account of the paucity of its inhabitants, from its being formerly overwhelmed with water; for which reason the Ionians consigned its suffrage and religious ceremonies to the people of Miletus. Artaxerxes allotted this town to Themistocles, to furnish his table with meat; Magnesia was to support him in bread, and Lampsacus in wine. The town now lies in ruins.

MYXINE, the hag, a genus of insects belonging to the order of *vermes intestini*. It has a slender body, carinated beneath; mouth at the extremity ciliated; the two jaws pinnated; an adipose or rayless fin round the tail and under the belly. The only remarkable species is the

M. glutinosa, about eight inches long. It inhabits the ocean; enters the mouths of fish when on the hooks of lines that remain a tide under water, and totally devours the whole, except skin and bones. The Scarborough fishermen often take it in the inside of the fish, on drawing up their lines. Linné attributes to it the property of turning water into glue.

N.

N, as a letter, is the fourteenth in the Hebrew, and the thirteenth in Greek, Latin, English, and other modern alphabets. It is the tenth consonant and the third liquid. **N** is a nasal consonant. The abbé Dangeau observes, that in the French the *n* is frequently a mere nasal vowel, without any thing of the consonant in it. He calls it the Slavonic vowel. The Hebrews call it nun, which signifies child, as being supposed the offspring of *m*; partly on account of the resemblance of sound, and partly of the figure. Hence the Latins frequently convert the Greek *ν*, at the end of a word, into *m*, as *φαρμακον*, pharmacum, &c. See *M*. In composition the Latins change **N** before *p*, *b*, and *m* into *m*, and frequently into *l* and *r*; as in *in-ludo*, *illudo*; *in-rigo*, *irrigo*, &c.; in which they agree with the Hebrews, who, in lieu of nun, frequently double the next consonant; and the Greeks do the same. The Greeks also, before *K*, *χ*, *γ*, *ν*, changed the *ν* into *γ*, in which they were followed by the ancient Romans; who, for *Angulus*, wrote *Aggulus*; for *anceps*, *ageps*, &c. The Latins retrench the *n* from Greek nouns ending in *ων*; as *Λεων*, *Leo*; *Δρακων*, *Draco*; on the contrary, the Greeks add it to the Latin ones ending in *o*; as, *Κατων*, *Nερω*, *Cato*, *Nero*. As a numeral, **N** was used among the ancients for 900; according to Baronius,

N. quoque nongentos numero designat habendos. And when a line was struck over it (*N̄*), it implied 9000. As an abbreviation, *N. L.* was used among the ancient lawyers for *nou liquet*, i. e. the cause is not clear enough to pass sentence upon.

NAAMAN. Heb. נָמָן, i. e. fair. A brave Syrian general, of whose miraculous cure of a

ieprosy, by washing in the Jordan, at the command of Elisha, a very interesting account is recorded in 2 Kings v. The rabbies have a tradition, that it was Naaman who drew the bow at a venture, and killed Ahab. See 1 Kings xxii. 34.

NAARDA, **NEARDA**, **NEERDA**, or **NEHARDEA**, in ancient geography, a town situated on the confines of Mesopotamia and Babylonia; populous, and with a rich and extensive territory, not easily to be attacked by an enemy, being surrounded on all sides by the Euphrates and strong walls. Josephus. In the lower age the Jews had a celebrated school there.

NAARDEN, or **NAERDEN**, a fortified sea-port of the Netherlands, on the Zuyder Zee. It is chiefly secure from the facility with which the neighbourhood may be inundated, and its situation renders it of importance in the defence of Amsterdam. Population 1800. Eleven miles E. S. E. of Amsterdam, and fourteen north of Utrecht.

NAAS, a borough and post town of Ireland in Kildare, Leinster. It is the county town, and alternately with *Athy*, the assizes town. It has five fairs, and was anciently the residence of the kings of Leinster; the name signifies the place of elders, for here the states of that province assembled during the sixth, seventh, and eighth centuries, after the Naastelghan of *Carmen* had been anathematised by the Christian clergy. On the arrival of the English it was fortified; many castles were erected, the ruins of which are partly visible; and parliaments were held there. At the foot of the mount or rath are the ruins of a house founded in 1484, for hermits of the order of St. Augustin. On the 24th of May 1798 this town was attacked by a large body of rebels,

who were driven into a narrow lane, where they sustained for a considerable time the fire of the Armagh militia and Sir W. W. Wynne's fencibles, before they were repulsed. They had 140 killed, besides many taken prisoners. The king's troops lost two officers and thirty men. It is fifteen miles south-west of Dublin.

NAB, *v. a.* Dan. *naape*; Swed. *nappa*. To catch unexpectedly; seize without warning. A word seldom used but in low language.

NAB, or **NAAB**, a river of Bavaria, formed of three streams of this name, the Bohemian Nab, rising on the borders of that country; the Ilaid Nab, and the Wald Nab, which has its source in the Fichtelberg Mountains. The three streams unite at the town of Au, and fall into the Danube below Ratisbon. In the lower part it is navigable for boats.

NABAL, a town of Tunis, in the peninsula of Hamamet. At the distance of about a furlong are the ruins of the ancient Neapolis. They are marked by a number of inscriptions upon large stones. The modern town is celebrated for its pottery. Thirty-two miles S. S. E. of Tunis.

NABAL, Heb. נבל, *i. e.* a fool, a rich Israelite of Carmel, whose churlishness had nearly provoked David to extirpate his whole family, had not Abigail's prudence pacified him.

NABATENE, or **REGIO NABATAEORUM**, according to Jerome, comprised all the country lying between the Euphrates and the Red Sea, and thus contained Arabia Deserta, with a part of Petra; so called from Nabaioth, the first born of Ishmael. According to Diodorus, it was situated between Syria and Egypt.

NABIS, a tyrant of Sparta, who reigned about A. A. C. 204, and contrived an instrument of torture in the form of a statue of a beautiful woman, whose rich dress concealed a number of iron spikes in her bosom and arms. When any one therefore opposed his demands, he would say, 'If I have not talents enough to prevail with you, perhaps my Apega may persuade you.' The automaton statue then appeared; which Nabis taking by the hand, led up to the person, who, being embraced by it, was thus tortured into compliance. To render his tyranny less unpopular, Nabis made an alliance with Flaminius the Roman general, and pursued with the most inveterate enmity the war against the Achaeans. He besieged Gythium, and defeated Philopœmen in a naval battle. His triumph was short; Philopœmen soon repaired his losses, and Nabis was defeated, and killed as he attempted to fly, about A. A. C. 194.

NABO, or **NEBO**, in mythology, a deity of the Babylonians, who possessed the next rank to Bel. It is mentioned by Isaiah, ch. xlvi. Vossius supposes that Nabo was the moon, and Bel the sun; but Grotius thinks that Nabo was some celebrated prophet of the country, the etymology of the name signifying, according to Jerome, 'one that presides over prophecy;' the moon, however, was supposed by many ancient nations to have great influence on prophetic powers.

NABOB, properly **NAVAB**, the plural of Naib, a deputy. As used in Bengal, it is the same as Nazim. It is a title also given to the wives and

daughters of princes, as well as to the princes themselves.

NABONASSAR, the first king of the Chaldeans or Babylonians; memorable for the Jewish era which bears his name. See **CHRONOLOGY**. The Babylonians revolting from the Medes, who had overthrown the Assyrian monarchy, founded a dominion under Nabonassar, which was much increased under Nebuchadnezzar. It is probable that this Nabonassar is that Baladan, father of Merodach, who sent ambassadors to Hezekiah: 2 Kings xx. 12; 2 Chron. xxxii.

NABOPOLASSAR, king of Babylon; he joined with Astayges the Mede, to destroy the empire of Assyria; which having accomplished, they founded the two empires of the Medes, under Astayges, and the Chaldeans, under Nabopolassar, 627 B. C.

NABOTH, an Israelite, who, refusing to sell or exchange his patrimonial vineyard to Ahab, was, by the wicked device of his queen Jezebel, falsely accused of treason and blasphemy, condemned and executed; and his property confiscated. This iniquity drew down the divine vengeance, in a most signal manner, on the whole royal house of Ahab. See **ANAB**.

NACHIGO, a large lake of the province of Mainas, Quito. It receives the rivers Sungoto and Manguy, and flows by a narrow channel into the Cahuapanas, in lat. 5° 23' S.

NACHITSCHEVAN, a well built town in the government of Ekaterinoslav, European Russia, situated on the Dou. It was built in 1780, with five villages in the neighbourhood, by a colony of Armenians from the Crimea, and is the see of one of their bishops. The town contains about 4000 inhabitants, and the whole colony 14,000. They manufacture silks and cottons, dress leather, and are active in commercial pursuits.

NACHO, or **NACO**, or Puerto de Cavallos, a settlement of Mexico, in the province of Honduras: 100 miles W. N. W. of Comayagua, and thirty north of Gracias a Dios. Long. 89° 36' W., lat. 15° N.

NACHOD, a small town of the north-east of Bohemia, on the Metau, twenty miles west of Glatz, in Silesia. Population 1400.

NACKSHIEVAN, or **NUCKSHIEVAN**, the ancient Artaxata, a place in Persian Armenia. It flourished till the reign of Abbas I., who removed the inhabitants into the interior. It is now reduced to ruins, containing not more than 400 people; but here the prince of Persia often pitches his camp in the military operations against the Russians: eighty-five miles south-east of Erivan.

NADENE, a district, town, and fortress of Hindostan, taken from the Hindoos by sultan Mahmoud of Ghizne, in 1014. The district is mountainous, and is at present governed by a Hindoo prince, tributary to the Seiks, and who, in the year 1806, was plundered by the rajah of Nepaul. The town stands in long. 75° 47' E., lat. 31° 49' N., on the eastern bank of the Beyal River.

NADIR, *n. s.* Arab. *anadir*. The point under foot directly opposite to the zenith.

As far as four bright signs comprize,
The distant zenith from the *nadir* lies. *Creech.*

The baneful star, that had so long shed its blasting influence in my zenith, for once made a revolution to the *nadir*; and a kind Providence placed me under the patronage of one of the noblest of men, the earl of Glencairn. *Burns.*

NAEFELS, a town of Switzerland, in the canton of Glaris, on the Linth, defended by a castle. Here in 1388 400 brave Swiss repulsed a numerous body of Austrians, under duke Leopold. In memory of this action a chapel was erected on the spot, which was rebuilt in the year 1779: four miles north of Glaris.

NAENIA, the goddess of funerals at Rome. Her temple was without the gates of the city. The songs which were sung at funerals were also called *nænia*. They were generally filled with the praises of the deceased; but so unmeaning that the word became proverbial to signify nonsense.

NÆVIUS, a famous augur in the reign of Tarquin, who, to convince the king and the Romans of his preternatural power, cut a flint with a razor, and turned the ridicule of the populace to admiration. Tarquin rewarded his merit by erecting him a statue in the comitium, which was extant in the age of Augustus. The razor and flint were buried near it under an altar, and it was usual among the Romans to make witnesses in civil causes swear near it. This miraculous event of cutting a flint with a razor, though believed by some writers, is treated as fabulous by Cicero, who himself had been an augur.

NÆVIUS (Cneius), a celebrated poet of Campania, who was bred a soldier; but quitted arms for poetry, which he prosecuted with great diligence. He composed a history in verse, and a great number of comedies; but it is said that his first performance of this kind so displeased Metellus, on account of the satirical strokes it contained, that he procured his banishment from the city; on which he retired to Utica, in Africa, where he died A. A. C. 202. Some fragments of his works are extant.

NÆVUS, a mole on the skin, generally called *nævus maternus*, or mother's mark. All preternatural tumors on the skin, in the form of a wart or tubercle, are called excrescences; by the Greeks they are called *acrothymia*; and when they are born with a person they are called *nævi materni*, or marks from the mother. A large tumor depending from the skin is denominated sarcoma. These appear on any part of the body; some of them differ not in their color from the rest of the skin; whilst others are red, black, &c.

NAFF, a river of Hindostan which separates Bengal from Arracan. The banks of it are covered with wood, interspersed with a few villages, whose inhabitants are chiefly occupied in hunting, or catching wild elephants. The river is of considerable width and depth; but its course has never been surveyed.

NAG, *n. e.* Belg. *nagge*; Goth. *negg*; Teut. *rack*. A small horse; a horse in familiar language; and, in the same sort of language, a pamour.

Your ribauld *nag* of Egypt
Hoists sails, and flies.

Shakspeare. Antony and Cleopatra.

A man of quick and active wit
For drudgery is more unfit,
Compared to those of duller parts,
Than running-*nags* to draw in carts.

Butler.

A hungry lion would fain have been dealing with good horseflesh; but the *nag* would be too feet.

L'Estrange.

Thy *nags* the leanest things alive,
So very hard thou lovest to drive. *Prior.*

NAGAMANGALAM, a fortress of the Mysore, India. It has a good citadel and two Hindoo temples, together with public granaries and store-rooms. It is said to have been erected 600 years ago, and was taken by the Mahrattas in the war of 1793. Long. 76° 57' E., lat. 12° 49' N.

NAGORE, a considerable sea-port of the south of India, in Tanjore. It carries on a good trade with the Americans, Ceylon, and other parts of Asia. Long. 79° 55' E., lat. 10° 49' N.

NAGORE, a district of Hindostan, in Ajmeer. It is inhabited chiefly by Hindoos, and tributary to the rajah of Jyenagur. It is celebrated for a fine breed of cattle.

NAGORE, the capital of the above mentioned district, and residence of its rajah, stands in long. 74° 15' E., lat. 27° N.

NAGORE, or NAGHORE, a town of Bengal, formerly the capital of Berhoom, was plundered by the rajah of Orissa, in 1244. In the vicinity is a hot spring of medicinal qualities. Long. 87° 20' E., lat. 23° 56' N.

NAGPOOR, CHUTA, or Little, a district of Bahar, Hindostan, in the southern extremity of the province, situated principally between 22° and 23° N. lat. It is bounded north by Ramgur and Palamow; south by the independent district of Gangpoor; on the east it has Ramgur and Singhboom; and on the west Palamow and Jushpoor. The ancient Hindoo province of Gundwana also borders this district on the southern, eastern, and western quarters; a very great proportion of the inhabitants are indeed of the old Hindoo castes.

The surface of the country is hilly, and covered with jungle. Under the Moguls it was a frontier government, partially subdued and occupied by native zemindars, and still continues one of the wildest and least cultivated of the British company's districts. It has no available navigation, though, like other hilly districts, it contains the sources of many streams. The soil is in many parts impregnated with iron; but it is not thought worth the working. The name Nagpoor indicates, according to Mr. Hamilton, that in the opinion of the natives the territory contains diamonds.

NAGPOOR, or NAGAPURA, the Town of Serpents, a large town in the province of Gundwana, the capital of the territories of the Nagpoor Mahrattas. Lat. 21° 9' N., long. 79° 45' E. It has been considered as the capital of Berar, but this is a mistake; Berar is an adjoining province, the capital of which is Ellichpoor.

This is a city of modern creation, and, though extensive and populous, but meanly built: the

streets are very narrow and filthy. Ragojee Bhoonslah first fixed the seat of government here by surrounding an insignificant village with a rampart; still it cannot be considered as a fortified town, for it is incapable of resisting an enemy for a single day. It stands on a high fertile plain, and bounded by hills of moderate height to the north-west and south on the rivulet Nag Nuddy. The appearance of the country to the north is that of a forest, with villages and small towns scattered over it. Including the suburbs the population has been taken at 80,000.

The dominions of the rajah, who resides here, comprehend great part of the ancient Hindoo province of Gundwana. In their entire dimensions they border on Bengal, the Northern Circars, and the Nizam's territories in the Deccan; but a large proportion of the country, never having been subdued, pays no tribute, unless when compelled by an enemy. The districts more immediately under his control are those in the vicinity of this capital, i. e. Chooteesghur, Ruttunpoor, and Chandah; together with the strong fortresses of Gawelghur and Narnallah, in Berar.

'The Mahratta Rajahs of Nagpoor being descended from the line of Sarajee,' says Mr. Hamilton, 'pretend to a superiority over the Poonah family, although the first sovereign was Ragojee Bhoonslah, a general in the service of the Peishwa, and despatched by him to effect the conquest of this country about the year 1740. He was succeeded by his son Janojee, who died A. D. 1772. His successor, in 1774, after many contests with the different members of his family, was his nephew, Ragojee Bhoonslah, under the regency of his father, Madhaje Bhoonslah. The latter died many years ago, but the former still continues on the throne. The policy of this state has, in general, been to interfere as little as possible with the contests of the neighbouring potentates, and for many years its internal dissensions furnished its sovereigns with sufficient occupation. Their territories being of great extent, wild, and desolate, presented many obstacles, and few temptations to the cupidity of their neighbours; they consequently remained for many years exempt from external warfare, until, in 1803, the Nagpoor Rajah was induced to join Dowlet Row Sindia in a confederacy against the British government. The signal defeats they sustained from general Sir Arthur Wellesley, at Assaye and Argaum, soon compelled the former to sue most urgently for peace, which was granted on the 17th of December, 1803, when a treaty of peace was concluded by general Wellesley on the part of the British government, and Jeswunt Row Ramchunder on the part of Ragojee Bhoonslah; by the conditions of which the latter ceded the province of Cuttack, including the port and district of Balasore. By this treaty he likewise ceded all the territory of which he collected the revenue in conjunction with the Nizam, and fixed his western frontier at the River Wurda, from whence it issues in the Injardy Hills, to its junction with the Godavery. The hills on which the forts of Gawelghur and Narnallah stand, with a contiguous district to the amount of four lacks of rupees, to remain with

the rajah; but every thing else south of the Injardy Hills, and west of the Wurda, to be ceded to the British and their allies. On any dispute arising the British engaged to mediate impartially between the Nizam and the Rajah, and the latter agreed never to receive any European into his service without the consent of the British government. During the war possession had been taken of the districts of Sumbhulpoor and Patna in the province of Gundwana; but, in consequence of the amicable relations subsisting between the states, they were restored in 1806; and, in 1809, the rajah again experienced the benefit of the British alliance, by the powerful assistance afforded him against Ameer Khan and his horde of depredators.'

NAGYAG, a town of Transylvania, in the mountainous county of Ilunyad, near Deva, remarkable for a mine of Tellurium, containing numerous particles of gold and silver. It is in a most romantic position, and has been wrought since 1740. The depth of the mine is about 160 fathoms. The atmosphere is thought very healthy.

NAGYAG, a river of Hungary, rising in the county of Marmarosch, on the borders of Poland, and falling into the great river Theyss.

NAGY-BANYA, or NEUSTADT, a town of north-east Hungary, the capital of one of the four large mining districts. It has a mint where gold, silver, and copper are coined, a gymnasium, and a court of justice for cases connected with mining. There are smelting works in the neighbourhood, and some rich mines of gold and silver; but the chief part of the ore is refined at other places. The minerals annually produced at the different works in the district are calculated at 9000 or 10,000 lbs. of silver, from 200 to 300 lbs. of gold, 150 tons of copper, 500 or 600 tons of lead, and 200 tons of iron. The workmen, in number from 10,000 to 12,000, and in general Wallachians. Population of the town 4600: ninety-four miles east by north of Debreczin.

NAGY-ENYED, or Strassburgh, the Anna Via of the Romans, a considerable town of Transylvania, situated in a valley near the river Marosch, and the chief place of the county of Lower Weissenburg. It has a Calvinist college and Calvinist, Lutheran, and Catholic churches. The chief employment of the inhabitants is agriculture, there being no manufacture except of turners' and joiners' wares. The remains of a Roman aqueduct are still to be seen. Inhabitants 6000: sixteen miles north of Carlsburg.

NAGY-KAROLY, a large town of the north-east of Hungary, has Catholic, Calvinist, and Greek churches; also a gymnasium taught by Catholics, and some large annual fairs. It belongs chiefly to count Caroly, a nobleman, who has here a castle with beautiful gardens. In the neighbourhood buffaloes are reared. Population 7600; forty miles east by north of Debreczin.

NAGY-KORESCII, a considerable town of the county of Pest, in the south-west of Hungary, and forty-five miles S. S. E. of the town of Pest. The chief employment of the inhabitants (about 12,000) is in the cultivation of vineyards, the sale of wine, and rearing sheep

NAHN, a mountainous district of Delhi, Hindostan, bounded on the east by the river Jumna, and situated between the thirtieth and thirty-second degrees of northern latitude. This country contains some extensive plains along the banks of the river; but, being open to the inroads of the Seiks and Nepaulese, it is little cultivated. It is also ruled by several jealous independent chiefs.

NAHN, the capital of the district of this name, is a place of strength, being built of stone, and situated on the top of a mountain. Its chief pays tribute both to the Seiks and the rajah of Nepal. Long. 77° ~ E., lat. 30° 41' N.

NAHOR, the son of Serug, and grandfather of Abraham, the ninth from Noah, was the shortest lived of the patriarchs before Abraham, having lived only 119 years.

NAHOR, the son of Terah, grandson of the preceding, and brother of Abraham. He resided at Haran called also Nahor, in Mesopotamia, and married Milcah, his niece, by whom he had eight sons: viz. 1. Huz or Uz, the progenitor of the Uzites or Ausites, who inhabit the land of Uz, on the west side of the Euphrates, where Job dwelt; 2. Buz, the ancestor of the Buzites; 3. Kemuel, the father of the Kemelites and of the Arameans or Syrians; 4. Chesed, the father of a tribe of Chaldeans; 5. Hazo, the ancestor of the Huzeans, or Chosseans, in Chusistan, in Persia; 6. Pildash, whom Dr. Hyde makes the ancestor of the Persians; 7. Jidlaph; and, 8. Bethuel, the father of Laban and Rebekah. Nahor had also other four sons by his concubine Reumah. Gen. xi. ; xxii. 21—24.

NAHUELHUPI, nahuel a tiger, and huapui an island, a lake of Chili, formed by the waters which descend from the Chilian Bordellas, and 100 miles in length. It encloses an island called the Island of Tigers, and there is a settlement on the north shore, in long. 70° 40' W., lat. 41° 22' 30' S.

NAHUM, the seventh of the twelve minor prophets, was a native of Elkoshai, a little village of Galilee. The subject of his book is the destruction of Nineveh, which he describes in at once a grand and pathetic manner: his style is bold and figurative, and cannot be exceeded by the most perfect masters of oratory. This prophecy was verified at the siege of that city by Astyages, A. M. 3378, A. A. C. 622.

'The fire, spirit, and sublimity of Nahum,' says Dr. Grey, 'are unequalled. His scenes are painted with great variety and splendor. The exordium of his work, in which he describes the attributes of God, is august; and the preparations for the attack, as well as the destruction of Nineveh, are represented with singular effect. The art with which the immediate destruction of the Assyrians under Sennacherib is intermingled with the future ruin of the empire affords a very elegant specimen of the manner in which the prophets delight to introduce present and distant events under one point of view. The allegorical pictures in this book are remarkably beautiful.'

'Nahum is said to have been of the tribe of Simeon; but, amidst a variety of opinions, it is difficult to determine what precise time should be assigned for the period of his existence. Jo-

sephus asserts that he lived in the time of Jotham, king of Judah: in which case he may be supposed to have prophesied against Nineveh when Tiglath-Pileser, king of Assyria, carried captive the natives of Galilee, and other parts, about A. M. 3264. The Jews place him so late as the reign of Manasseth. The most probable opinion is, that, though Nahum might have lived in the reigns of both these kings, yet he delivered these prophecies in Judea in the reign of Hezekiah: for he appears to speak of the taking of No-Ammon, a city of Egypt, and of the insolent messengers of Sennacherib, as of things past; and he likewise describes the people of Judah as still in their own country, and desirous of celebrating their festivals. He cannot therefore be supposed to have prophesied before the fourteenth year of Hezekiah, since the expedition of Sennacherib against this prince was in the fourteenth year of Hezekiah's reign; and therefore he probably prophesied between A. M. 3283, when Shalmaneser carried Israel captive into Assyria, and A. M. 3294, when Sennacherib was meditating the destruction of Jerusalem.

'At this period of perplexity and distress,' adds the above writer, 'when the fate of Samaria was present to the apprehensions of Judah; when her own cities had been taken by Sennacherib, and Hezekiah had drained his treasury, and even despoiled the temple, in the vain hope of averting the fury of Sennacherib; then was Nahum raised up in consolation to Judah, and to proclaim destruction 'to him that imagined evil against the Lord.' At this time Sennacherib still continued to send arrogant messages, and blasphemous letters; threatening the destruction of Jerusalem, insulting Hezekiah, and deriding the confidence of his people, who trusted in the Lord. Already had Isaiah been commissioned to send an assurance of protection to Jerusalem; and Nahum conspired with him to promise deliverance to Hezekiah from the Assyrian yoke; and to anticipate with prophetic exultation the appearance of welcome messengers, that should bring good tidings, and publish peace to Judah; who should celebrate her solemn feasts secure from invasion, as her enemy 'was utterly cut off.'

'Nahum afterwards, in his two last chapters, proceeds to foretell the future downfall of the Assyrian empire; renewing those denunciations of wrath which about ninety years before Jonah had uttered against Nineveh, whose repentance was but of short duration; and predicting, in the most descriptive manner, that final destruction which was effected probably by Nabopolassar and Cyaxares, A. M. 3362; but certainly by the Medes and Babylonians, whose confederate forces assaulted the Assyrians unexpectedly, 'while they were folded together as thorns, and while they were drunken as drunkards;' when 'the gates of the river were opened, the palace dissolved,' and an 'over-running flood' assisted the conquerors in their devastation; who took an endless store of spoil of silver and of gold, making an utter end of the place of Nineveh: of that vast and populous city, whose walls were 100 feet high, and capable of admitting three chariots abreast upon them, and fortified with 1500 towers, in walls of 200 feet high. So totally, in-

deed, was this city destroyed, that, in the second century after Christ, not a vestige of it remained to ascertain the spot on which it stood. Its situation has long been a matter of uncertainty and dispute.'

NAIADES, in mythology, inferior deities who presided over rivers, springs, wells, and fountains. The Naiades generally inhabited the country, and resorted to the woods or meadows near the stream over which they presided. They are represented as young and beautiful virgins, often leaning upon an urn, from which flows a stream of water. Ægle was the fairest of the Naiades, according to Virgil. Their name is derived from *ναωω*, to flow. They were held in great veneration among the ancients; and sacrifices of goats and lambs were offered to them, with libations of wine, honey, and oil; sometimes offerings of milk, fruit, and flowers. Their robes (if any, for they are commonly naked) are of a greenish color, with lighter or darker shades, and so transparent as to show the fineness of their skin and shape. They have sometimes, on the ancient gems, flying veils over their heads, like the Auræ or sylphs.

NAIANT, in heraldry, a term used in blazoning fishes, when borne in a horizontal posture, as if swimming.

NAIAS, in botany, a genus of the monandria order, and diœcia class of plants. The male **CAL.** is cylindrical and bifid; the **COR.** quadrifid; there is no filament, nor is there any female **CAL.** or **COR.**; there is one pistil, and the capsule is ovate and unilocular. Species one, common to the sea-coasts of Europe; stem with triangular spines; leaves narrow, with spinous teeth on each side; flowers axillary, solitary.

NAIL, *n. s.* Sax. *næg*l; Goth. *nagl*; Swed. Dan. and Teut. *nagel*. The horny substance which defends the human fingers and toes; the talon or claw of a bird or beast: hence, a measure of length of two inches and a quarter (the distance probably from the knuckle to the nail). 'On the nail,' Dr. Johnson says, readily; immediately; without delay. 'I once supposed it from a counter studded with nails, but have since found in an old record, *solvere super unguem*. It therefore means into the hand.'

My *nails* can reach unto thine eyes. *Shakespeare.*
The meanest sculptor in the Æmilian square,
Can imitate in brass the *nails* and hair;
Expert in trifles. *Dryden.*

The *nails* of our fingers give strength to those parts in the various functions they are put to; and defend the numerous nerves and tendons that are under them. *Ray.*

We want our money on the *nail*;

The banker's ruined if he pays. *Swift's Poems.*

NAIL, *n. s.* & *v. a.* Sax. *næg*l. Perhaps from the above. A pin or fastening, generally of metal; a stud or box: to fasten or stud with nails.

And he seide to hem but I see in his hondis the fityng of the *nails*, and putte my fyngr into the place of the *nails*, and put myn hond into hise side I schal not bileue. *Wiclif. Jon. 20.*

As one *nail* by strength drives out another;

So the remembrance of my former love

Is by a newer object soon forgotten. *Shakespeare.*

For the body of ships, no nation doth equal England, nor for the oaken timber to build them; and we need not borrow iron for spikes or *nails*, to fasten them together. *Bacon.*

The load-stone mines in the shore of India, are so placed in abundance and vigour, that it proves an adventure of hazard to pass those coasts in a ship with iron *nails*. *Brown.*

To the cross he *nails* thy enemies,
The law that is against thee, and the sins
Of all mankind, with him are crucify'd.

Milton.

A beechen pail
Hung by the handle on a driven *nail*. *Dryden.*
He elapsed his hand upon the wounded part;
The second shaft came swift and unespy'd,
And pierc'd his hand and *nail'd* it to his side.

Id.

For not the desk with silver *nails*,
Nor bureau of japan, e
Nor standish well japan'd avails
To writing of good sense. *Swift.*
An equivocal word used for the *nail* of the hand or foot, and for an iron nail to fasten any thing. *Watts.*

An opera like a pillory may be said
To *nail* our ears down, but expose our head.

Young.

NAILS, in building, &c., are of several sorts

1. Back and bottom nails, which are made with flat shanks to hold fast and not open the wood.
2. Clamp-nails, for fastening the clamps in buildings, &c.
3. Clasp-nails, whose heads, clasping and sticking into the wood, render the work smooth, so as to admit a plane over it.
4. Clench-nails, used by boat and barge builders, and proper for any boarded buildings that are to be taken down, because they will drive without splitting the wood, and draw without breaking; of these there are many sorts.
5. Clout-nails, used for nailing on clouts to axle-trees.
6. Deck-nails, for fastening of decks in ships, doubling of shipping, and floors laid with planks.
7. Dog-nails, for fastening hinges on doors, &c.
8. Flat-points, much used in shipping, and are proper where there is occasion to draw and hold fast, and no conveniency of clenching.
9. Jobent-nails, for nailing thin plates of iron to wood, as small hinges on cupboard-doors, &c.
10. Lead nails, for nailing lead, leather, and canvas to hard wood.
11. Port-nails, for nailing hinges to the ports of ships.
12. Pound-nails, which are four-square, and are much used in Essex, Norfolk, and Suffolk, and scarcely any where else, except for paling.
13. Ribbing-nails, principally used in ship-building, for fastening the ribs of ships in their places.
14. Rose-nails, which are drawn four-square in the shank, and commonly in a round tool, as all common two-penny nails are; in some countries all the larger sort of nails are made of this shape.
15. Rother-nails, which have a full head, and are chiefly used in fastening rother-irons to ships.
16. Round-head nails, for fastening on hinges, or for any other use where a neat head is required; these are of several sorts.
17. Seupper-nails, which have a broad head, and are used for fastening leather and canvas to wood.
18. Sharp-nails, these have sharp points and flat shanks, and are much used, especially in the West Indies, for nailing soft wood.
19. Sheath-

ing nails, for fastening sheathing-boards to ships. 20. Square-nails, which are used for hard wood, and nailing up wall-fruit. 21. Tacks, the smallest of which serve to fasten paper to wood; the middling for wool-cards, &c., and the larger for upholsterers and pumps. Nails are said to be toughened, when too brittle, by heating them in a fire-snovel, and putting some tallow or grease among them.

Such are some of the various descriptions of nails employed by mechanics in the different arts of life, and, as new arts and new inventions arise from human ingenuity, other kinds of nails will be formed, adapted to the several purposes for which there is a demand. Formerly the nail-maker's process was very tedious, every nail being made by the hand, and each begun and finished by the same individual; it was afterwards discovered in this manufacture, as in many others, that, by a division of labor, and by assigning to different persons the pointing, heading, &c., a greater quantity of work was done by the same number of hands; of course the processes were much simplified and expedited, and the article could be sold on much lower terms.

Within the last five-and-twenty years ingenious mechanics have not only improved the method of manufacturing nails, but have thought it worth their while to secure to themselves the exclusive right of their inventions by obtaining the king's letters patent: of some of these we shall proceed to transcribe an account from the Circle of the Mechanical Arts:—

In the year 1790 Mr. Thomas Clifford, of the city of Bristol, obtained two patents for the manufacture of nails of every kind. The principle on which his first invention is founded was that of making the nails in a die; that is, by having a die or the impression of the nails to be cut into one or more pieces of iron, steel, or other metal; and the iron of which the nails are to be formed is drawn or rolled into the proper form or thickness, and, by a force adapted to the purpose, pressed into a cavity or die, so as to form the nails, either complete or so nearly complete as that they can be finished with a very little labor. This operation may be done in several ways, but the one particularly recommended by Mr. Clifford is by rollers of iron or steel, and worked either by water, steam, wind, horses, &c. The two rollers are to be made of iron and cased with steel, each of the same diameter, and the diameter proportioned to the length and size of the nail intended to be made. Each roller should have one or more cog-wheels, the cogs of one roller to work into those of the other, so that the rollers may both perform the same exact revolution. One half the impress of the nail is to be cut with one roller, the other half in the other, so that the two impressions form a cavity or die of the exact form of the nail, extending the lengthways of the nail on the circumference of the rollers; and as many impressions of the same kind may be cut in the rollers, one at the end of the other, as will complete their circumference, and continue the cavity all round the rollers: the point of one nail joining the head of the next, or the two points and two heads joining each other. The rollers must in this, as in other

cases, be made to work very true, and close to each other.

The mode of operation is this: a rod of metal, iron for instance, rolled or drawn to a convenient size, is to be heated, and, while hot, the end of it is put between the rollers, into the cavity or die which forms the impression of the nail. The rollers, being now put in motion, will draw the iron through, pressed into the cavity or die which forms the impression of the nail, the one joined to the other, which must be afterwards separated by means of instruments acting as nippers, shears, chisels, &c. The rollers being made to work very close to each other, where the edge of the nail is formed, will prevent much of the metal from being pressed out on each side of the nail, and what is pressed out may be cut off by instruments adapted to the purpose. Several pairs of rollers may be made to work together, and each pair may have several rows of dies cut on them, so as to form the impression for several strings of nails; and a rod of iron, being put into each of them, will roll out as many strings of nails with one revolution of the rollers. A pair of rollers may also have the greater part of their surface cut with dies, and a flat bar or piece of iron be made to pass between the rollers, so as to form sheet nails; the whole of them connected to one another by thin plates of iron, of which they are composed, and this would require each nail to be cut out or separated from the sheet by proper instruments.

Mr. Clifford's second invention consists, 1. In drawing the iron, or other metal, into a tapering or wedge-like form, according to the length and thickness of the different sizes of nails to be made. 2. The nails are to be cut out of those wedge-like or tapering plates by means of a punch, the face of which is made according to the size, taper, and form of the nail to be cut out; as also, having a hollow bolster, the hollow or aperture of which must also be made of the size and form of the nail, and consequently to fit and receive the punch above-mentioned. The punch thus fitted to the bed, and sliding in the frame to keep it steady, will, by a blow or by pressure, cut or force a part of the taper plate into and through an aperture of the bed fitting to it, and by which the nail is formed. This operation is, by the manufacturers of buckles, buttons, &c., generally called cutting out. 3. To form the heads of horse-nails, called rose heads, and others of nearly a similar kind, after the operations of drawing and cutting out, the nail is to be put into a heading tool, which is also called a bed, which bed receives the nail, excepting a small portion, at the thick end of which the head is formed by a punch or die. This die, by a blow or pressure, forms the head as required; and when the nails are made of hard iron, after they are cut in the way described, the thick end is made hot before they are put into the bed or heading tool. Another method adopted in the manufacture of nails is by cutting them out of iron plates of equal thickness, and afterwards to point them either by a hammer or other pressure. 5. In making nails that are of a triangular form, the plate or

strip of iron is pressed or stamped into a die, having impressions cut to the form of such nails, after which they are cut out by a punch.

At about the same period in which the foregoing patents were obtained Mr. William Finch, of Woombourne, in Staffordshire, invented another method of making nails and spikes by machinery, to be worked by steam, &c., by which all manual labor was to be saved. In his specification he describes his power as consisting of one main shaft, caused to revolve in either a horizontal or perpendicular direction by means of a water-wheel, or a steam-engine. Such main shaft will put in motion, by means of cogs and pinion-wheels, other counter-shafts or barrels, on which are fixed arms, &c., and on these are hammers that are worked in either a lift, or tilt manner. He also makes three divisions of hands in the manufacturing of headed-nails, namely, one man, woman, or child, to carry the heated rod to the man, woman, or child, stationed before the hammer, which person, by mere activity, will with one hand not only form the larger size nail, but a far greater number in the same given time: when the third person will, with the same kind of hammer, head and finish a number of the same shanks together, leaving them truer made, and better for use, than the present mode. Also, by a division of hands, will make such nails as require no tool or frame to be headed in; namely, the one to carry the iron from the fire, and the other stationed before the hammer to finish them. In enumerating the advantages and savings of this method, above the others then in use, Mr. Finch says that, by heating many rods in one fire, there will be a saving of coal:—by the more speedy motion of machine hammers, several nails will be made by once heating the rod, whereas, by the old method, only one is made:—again, the motion being regular, independently of strength, a child will be able to make the largest nail or spike. A farther benefit, it is said, will arise to the manufacturer by this mode, viz. that he will have his business done at one place, or under one roof, whereas, by the old method, the workmen sometimes live many miles asunder, and cannot be overlooked. Likewise, by this method, the limbs of those employed in the manufactory will be preserved to the end of life, but, in the old method, it frequently happened that nail-makers were lamed in a few years, and became burdensome to the parish.

Another invention of this kind is that for which a patent was obtained, in 1808, by Messrs. Willmore and Tonk, and which may be thus described:—They take a nail-rod of a size suitable to the size of the nail intended to be manufactured, and applying it to a common screw-press, mounted with proper cutters, cut off from the end of the rod two pieces at once, obliquely across the rod at one place, and directly across it in another. Two studs or stops are set up, which are attached to the press, and are moveable in the direction of the rod, for the purpose of ascertaining the length of the nail; and both studs are adjustable in the cross direction of the rod, so that the obliquity of the cut, according to the kind of nail to be made, is thereby deter-

mined, as well as the length of the nail. This is called the first operation.

The second operation is to anneal the pieces so cut off, if the iron should not be sufficiently malleable, which is done in the usual and well-known manner. The third operation is that of heading, which, for clasp-head nails, consists of two parts, one for gathering, and the other for forming the head of the nail. The first part of this operation is performed by putting a piece cut off the rod of iron, as before described, into a pair of clams, leaving as much of the thick end projecting above the clams as is sufficient to form the head. These clams have steel bits let into them with sharp edges, which press only against the two opposite sides of the piece, and which have the effect of two chisels when the punch of the press is brought down upon the piece with considerable force, and raise or gather up iron on each side towards forming the head. The second part of this operation is to put the piece thus prepared into another pair of clams, having bits formed to correspond to the under side of the head; and the punch, having the impression of the upper side of the head engraved or sunk into it, is brought to press strongly upon the head in the clams, and thereby the clasp-head is properly formed.

For nails intended to have rose-heads, or any other kind of heads, except clasp-heads, the first part of this operation is not absolutely necessary, but the bits, which for clasp-nails must have sharp edges, must for the other kind of nails have blunt edges, to prevent the undercutting. For the second part of this operation, the piece is put either into a pair of clams, or into the tool commonly called a bore, and then pressed with punches, properly engraved or sunk, according to the kind of head wanted. By the first operation, the piece cut off the rod of iron is formed something like a mortise-chisel; the fourth operation is to point it, which is done by putting the piece into a bed of steel, in which is cut a nick or groove, having parallel sides, but the bottom rising towards the end where the point of the nail is to be formed. The punch is shown in the specification, and the end which presses upon the point of the nail is made to project farther than the other part, so as to meet the corresponding part of the bed when the punch is brought upon the nail. The groove or nick in the bed should be just wide enough to receive the piece easily, but prevent it from twisting when the impression is made. The piece is put twice into the nick; once with the chisel, the end lying horizontal, and the next turned a quarter round, to press the chisel edge into a pointed form. If the nails, by the strong pressure which is necessary in this operation, should become too hard to clench, they anneal them in the ordinary way, which may be called the fifth operation. The third, fourth, and fifth operations above described are applied to nails, or pieces cut off from sheet or rolled iron in the ordinary way; but as they, in consequence of the fifth operation, which is necessary to give them the quality of clenching, are apt to be too soft to drive well, a sixth operation is applied, viz. quenching them, when red hot, in water or

other proper fluid, which gives them stiffness enough to drive without destroying the quality of clenching. The figures attached to the specification show, 1. A pair of clams, with bits or dies let into them, which can be renewed from time to time with more ease, and at less expense, than by the usual method. These bits are proper for the first part of the third operation. 2. A pair of bits, or dies, proper for making either rose-heads or flat-heads. 3. A pair of bits, or dies, proper for the second part of the third operation for clasp-head nails. 4. A view of the common screw-press, in which is shown the side-pin, or screw, by which the clams are firmly pressed together at the time the punch is pressed down upon the nail. This pin, or screw, is generally worked by the foot, by means of a lever connected with a treadle, while the hand applies its force to the handle of the fly; but to the head of the main screw is fixed a portion of a pulley (or a whole one), to which is attached a rope, chain, belt, or other connecting pliable material, which flying round the edge of another pulley fixed to the frame of the press, and standing vertically descends, and is attached to the moveable end of the treadle; and on this treadle is placed a weight, heavy enough to press the clams together with sufficient force. By means of the latter described machinery, which is the only part claimed by the patentees as their invention, the operation of pressing is performed by the action of the hand only, and is found very convenient.

We may mention, in connexion with this subject, an improvement in the manufacture of bagging for packing of nails, adopted by Mr. Benjamin Haden, of Sedgley, in Staffordshire. He takes for his warp, hurds or tow, prepared in the usual way, such as are in common use in the manufacture of nail-bagging, but for his wefts or woofs he takes old ropes, or junk, of any dimensions; and, after untwisting or dividing the threads or filaments, he winds it into bobbins or quills, and then they become fit for the shuttle, when he weaves them with the common warp in the common way. The materials just mentioned are said to be peculiarly adapted to give strength and durability to the article, and are therefore perfectly fit for the bagging of nails. The yarn, of which ropes are generally made, particularly king's ropes, is spun from the choicest hemp, and strongly impregnated with tar. The threads taken from the middle of such ropes, not having been exposed to the weather, or to friction, are as sound and as strong as when originally used. The tarry matter, with which the threads are impregnated, renders them peculiarly advantageous in the manufacture of sacks that require great strength, and substance, the web being composed of these threads, finely spun, which are good and strong, tenacious, and not liable to rent or perish with the wet, nor to burst in carriage, to the great loss of those concerned.

The nail-makers of the United States have carried the invention of cutting nails by machinery to great perfection: greater, as some have thought, than has been exhibited in this country. The American secretary to the treasury, published in 1810 some letters on the manufactures of that country, by which it appears that they

then had machines which performed the cutting and heading at one operation, and with such a rapidity, that one machine furnished upwards of 100 nails per minute. 'The importance of nail machinery in Massachusetts,' he says, 'and of all that relates to rolling and slitting-mills, with which nail machinery is immediately connected, requires that a particular account should be given of them. In old countries nails are forged, here they are cut; and it is curious to trace the progress of American genius through the various steps of this invention. Twenty years ago, some men, now unknown, and then in obscurity, began by cutting slices out of old hoops, and by a common vice, gripping these pieces, headed them with several strokes of the hammer: by progressive improvements slitting-mills were built, and the shears and the heading-tools were perfected, yet much labor and expense were requisite to make nails. In a little time Jacob Perkins, Jonathan Ellis, and a few others, put into execution the thought of cutting and of heading nails by water, but, being more intent upon their machinery than upon their pecuniary affairs, they were unable to prosecute the business. At different times other men have spent fortunes in improvements; and it may be said with truth, that more than 1,000,000 of dollars have been expended; but at length these joint efforts are crowned with complete success, and we are now able to manufacture at about one-third of the expense that wrought nails can be manufactured for, and nails which are superior to them, for at least three-fourths of the purposes to which nails are applied, and for most of those purposes, they are full as good. The machines made use of by Odiorne, those lately invented by Jonathan Ellis, and a few others, present very fine specimens of American genius. To northern carpenters it is well known, that in almost all instances it is unnecessary to bore a hole before driving a cut nail; all that is requisite is, to place the cutting edge of the nail across the grain of the wood; it is also true, that cut nails will hold better in the wood. These qualities are, in some rough building works, worth twenty per cent. of the value of the article, which is equal to the whole expense of manufacturing. For sheathing and drawing, cut nails are full as good as wrought nails; only in one respect are the best wrought nails a little superior to cut nails, and that is where it is necessary they should be clenched. The manufacture of cut nails was born in our country, and has within its bosom advanced through all the various stages of infancy to manhood; and, no doubt, we shall soon be able, by receiving proper encouragement, to render them superior to wrought nails in every particular. The principal business of rolling and slitting-mills is, rolling nail-plates; they also serve to make nail rods, hoops' tires, sheet iron, and sheet copper; in this State we have not less than twelve.'

These mills could roll and slit 7000 tons of iron a-year: they now, it is presumed, roll and slit each year about 3500 tons, 2400 tons of which, probably, are cut up into nails and brads, of such a quality, that they are good substitutes for hammered nails; and, in fact, have the pre-

ference with most people for the following reasons, viz. on account of the sharp corner and true taper with which cut nails are formed; they may be driven into harder wood, without bending or breaking, or hazard of splitting the wood, by which the labor of boring is saved, the nail, one way, being of the same breadth or thickness from head to point.

NAILS, in anatomy. See **ANATOMY**.

NAILS, in Hebrew antiquity, were made use of by the ancient Jews for cancelling bonds: and the ceremony was performed by striking them through the writing. This seems to be alluded to in Scripture, where God is said by our crucified Saviour to have 'blotted out the hand-writing of ordinances that was against us, and to have taken it out of the way, nailing it to his cross.' Col. ii. 14.

NAIN (Lewis Sebastian de), one of the most learned and judicious critics and historians France has produced. He was the son of a master of the requests, and born at Paris in 1637. At ten years old he went to school at Port Royal, and became one of the best writers of that institution. Sacy, his intimate friend, prevailed with him in 1676 to receive the priesthood; which his humility would not suffer him to aspire to. Buzanval, bishop of Beauvois, wished to have him for his successor; but Nain was regardless of dignities. He died in 1698, aged sixty-one. His principal works are, 1. *Memoirs on the first Six Ages of the Church*, 16 vols. 4to. 2. *The History of the Emperors*, 6 vols. 4to. These works are deduced from original sources, and composed with the utmost fidelity.

NAIN, an ancient city of the tribe of Issachar, in Galilee, at the foot of Mount Hermon, on the north. Near the gates of this city our Saviour restored to life the only son of a widow. At present Nain is only a hamlet, inhabited by Christians, Mahometans, and Jews.

NAIRN, one of the smaller counties of Scotland, formerly included in the province of Moray, with the exception of the detached portion, Ferintosh, now completely surrounded by Ross-shire. It is bounded on the north by the Moray frith; on the east and south by Morayshire; and on the west by Inverness-shire. It is from sixteen to eighteen miles in length, and about ten in its greatest breadth. Along the coast, from one to six miles in breadth, and the valley of the river Nairn, is extremely well cultivated and productive; but the rest of the county is bleak and sterile. The river Nairn descends from the hills of Inverness-shire, and, proceeding north-east, falls into the frith at the county town. On its banks are several picturesque old castles, and various handsome modern seats. Amongst the former are the castles of Kilravock and Cawdor, both being surrounded by extensive plantations. In the vicinity of Cawdor is the most northern forest of oak, and containing some of the finest and largest trees in the kingdom. The river Findhorn intersects the southern part of the county. From the Nairn eastward, the soil is a light loam on a gravelly bottom. Westward it approaches to clay. In the hilly district, crossed by the Findhorn, there is but little

arable land, it being for the most part moors, well stored with grouse. The county is computed to contain 128,000 acres, of which there are in natural wood about 4000, and under plantations upwards of 6000. There are several small lakes; no minerals of any importance; but abundance of excellent freestone for building; and a great extent of excellent marl. Nairnshire contains the royal burgh of Nairn, the county town; and two villages, viz. Auldearn and Calder, of inferior note; but the former is memorable as the scene of the victory obtained by the celebrated marquis of Montrose in 1645. It is divided into four parishes, and sends a member to parliament alternately with Cromarty.

NAIRN, a royal borough and county town of Scotland, supposed to be the *Nærnis* of Ptolemy, situated at the mouth of the river. The harbour, which opened in the Murray Frith, is now choked up with sand; and the commerce of the town is inconsiderable. It has a charter dated 1539, by James VI., renewing one granted by Alexander I., and confirmed by Charles II., vesting its government in a provost, three bailies, dean of guild, treasurer, and eleven councillors. It had a castle, which was taken by the Danes in the reign of Malcolm I., and the keepers cruelly used. Its ruins are now covered by the sea. It joins with Inverness, Forres, and Fortrose, in electing a member of parliament for these boroughs.

NAISSANT, in heraldry, is applied to any animal issuing out of the midst of some ordinary, and showing only his head, shoulders, fore-feet, and legs, with the tip of his tail; the rest of his body being hid in the shield, or some charge upon it; in which it differs from *issuant*, which denotes a living creature arising out of the bottom of any ordinary or charge.

NA'KED, *adj.* } Sax. *nacob*; Swed. *nacot*;

NA'KEDLY, *adv.* } Belg. *naakt*; Teut. *nacket*.

NA'KEDNESS, *n. s.* } The eastern languages have, according to Mr. Thomson, Turk. and Tart. *nogu*; Hind. *nigut*. Without clothes or covering; bare: hence, unarmed; defenceless; unprepared; and (metaphorically) plain; evident; simple; wanting the usual or necessary additions: the adverb and substantive follow each of these senses:

Spies, to see the *nakeeness* of the land are ye come.

Genesis.

Not that God doth require nothing unto happiness at the hands of men, saving only a *naked* belief, for hope and charity we may not exclude; but that without belief all other things are as nothing, and it is the ground of those other divine virtues.

Hooker.

Had I but served my God with half the zeal
I served my king, he would not in mine age
Have left me *naked* to mine enemies. *Shakspeare.*

The truth appears so *naked* on my side,
That any purblind eye may find it out. *Id.*

Why seekest thou to cover with excuse
That which appears in proper *nakedness*? *Id.*

A philosopher being asked in what a wise man differed from a fool? answered, send them both *naked* to those who know them not, and you shall perceive.

Bacon.

So blinds the sharpest counsels of the wise
This overshadowing Providence on high,

And dazzleth all their clearest-sighted eyes,
That they see not how *nakedly* they lie. *Daniel.*

He pitying how they stood
Before him, *naked* to the air, that now
Must suffer change ;

As father of his family, he clad
Their *nakedness* with skins of beasts. *Milton.*

Nor he their outward only, with the skins
Of beasts ; but inward *nakedness*, much more
Opprobrious ! with his robe of righteousness
Arraying, covered from his Father's sight. *Id.*

Though several single letters, *nakedly* considered,
are found to be articulations only of spirit or breath,
and not of breath vocalized ; yet there is that property
in all letters of aptness to be conjoined in syllables. *Holder.*

Ungrateful men !

Behold my bosom *naked* to your swords,
And let the man that's injured strike the blow. *Addison.*

I entreat my gentle readers to sow on their tuckers
again, and not to imitate the *nakedness*, but the innocence
of their mother Eve. *Id.*

Thou to be strong must put off every dress,
Thy only armour is thy *nakedness*. *Prior.*

NALDI (Sebastiano), a famous Italian buffo
singer in London, in the early part of this century.
This particular branch of singing was
considered his forte. He met his death in Paris
in 1819, by the explosion of a steam kitchen apparatus
for cooking.

NALL, *n. s.* Perhaps from nail. An awl,
such as collarmakers or shoemakers use.

Whole bridle and saddle, whiteleather and *nall*,
With collars and harness. *Tusser.*

NALOES, a half-civilised people of Western
Africa, inhabiting the banks of the Rio Nunez.
They have made considerable progress in agriculture,
and cultivate rice, indigo, and cotton.
They manufacture also a species of cotton cloth
in much request in the interior.

NAME, *n. s. & v. a.* } Sax. *nama* ; Goth.
NAME'LESS, *adj.* } *nam* ; Mæss. Goth. *namo* ;
NAME'LY, *adv.* } Swedish *namn* ; Belgic
NAME'SAKE, *n. s.* } *nem* ; Teut. *name*. Appellation ; discriminative title or term of description ; hence, renown ; fame ; celebrity ; authority or power delegated ; imputation ; appearance ; person named : to name, to discriminate by some appellation or title ; specify ; entitle ; utter ; mention : namely means, specifically ; particularly : namesake, one that has the same name with another.

Let my *name* be *named* on them. *Gen. xlviii.*

Bring me him up whom I shall *name*. *1 Sam.*

His *name* was called Jesus, which was so *named* of
the angel before he was conceived. *Luke ii. 21*

There is a friend which is only a friend in *name*.
Eccles.

Accustom not thy mouth to swearing : neither use
thyself to the *naming* of the Holy One. *Id.*

Thou hast had seven husbands ; neither wast thou
named after any of them. *Tob. iii. 8*

It can be to nature no injury, that of her we say
the same which diligent beholders of her works have
observed ; *namely*, that she provideth for all living
creatures nourishment which may suffice. *Hooker.*

What's in a *name*? That which we call a rose,
By any other *name* would smell as sweet.

Shakspeare.

What men of *name* resort to him ?

—Sir Walter Herbert, a renowned soldier ;
And Rice ap Thomas with a valiant crew,
And many others of great *name* and worth. *Id.*

In the *name* of the people,

And in the power of us the tribunes, we
Banish him. *Id. Coriolanus.*

I mention here a son of the king's whom Florizel
I now *name* to you ; and with speed so pace
To speak of Perdita. *Shakspeare.*

Did my father's godson seek your life ?

He whom my father *named*? Your Edgar. *Id.*

Which of these sorrows is he subject to ?

—To none of these, except it be the last ;
Namely, some love that drew him oft from home. *Id.*

Visit eminent persons of great *name* abroad ;
to tell how the life agreeth with the fame. *Bacon.*

The council making remonstrances unto queen
Elizabeth of the continual conspiracies against her
life ; and, *namely*, that a man was lately taken, who
stood ready in a very suspicious manner to do the
deed ; advised her to go less abroad weakly attended.
But the queen answered, that she had rather be dead,
than put in custody. *Id.*

On the cold earth lies the unregarded king,
A deadless carcass, and a *nameless* thing. *Denham.*

The king's army was the last enemy the west had
been acquainted with, and had left no good *name*
behind. *Clarendon.*

Thus was the building left
Ridiculous, and the work Confusion *named*. *Milton.*

Those whom the fables *name* of monstrous size. *Id.*

And highly wicked surely must that practice be,
whereby we grow *namesakes* to him, *Burrow.*

Nor does the dog-fish at sea, much more make out
the dog of land, than that his cognominal, or *name-*
sake in the heavens. *Broune's Vulgar Errors.*

The milky way,
Framed of many *nameless* stars. *Waller.*

Thousands there were in darker fame that dwell,
Whose *names* some nobler poem shall adorn. *Dryden.*

They list with women each degenerate *name*,
Who dares not hazard life for future fame. *Id.*

These shall be towns of mighty fame,
Though now they lie obscure, and lands without a
name. *Id.*

When Ulysses with fallacious arts,
Had forged a treason in my patron's *name*,
My kinsman fell. *Id. Æneid.*

If every particular idea that we take in should
have a distinct *name*, *names* must be endless. *Locke.*

Let any one *name* that proposition whose terms or
ideas were either of them innate. *Id.*

For the excellency of the soul, *namely*, its power
of divining in dreams ; that several such divinations
have been made, none can question. *Addison.*

One author is a mole to another : it is impossible
for them to discover beauties ; they have eyes only
for blemishes : they can indeed see the light, as is
said of their *namesakes* ; but immediately shut their
eyes. *Id.*

Little credit is due to accusations of this kind
when they come from suspected, that is, from *name-*
less pens. *Atterbury.*

The husband
Bids her confess ; calls her ten thousand *names* ,
In vain she kneels. *Granville.*

Thy reliques, Rowe, to this fair shrine we trust
And sacred, place by Dryden's awful dust;
Beneath a rude and nameless stone he lies,
To which thy tomb shall guide enquiring eyes.

Pope.

Like the watermen of Thames
I row by, and call them names.

Swift's Miscellanies.

Such imagery of greatness ill became
A nameless dwelling, and an unknown name. *Harte.*

Bartolus is of great name; whose authority is as much valued amongst the modern lawyers, as Papi-nian's was amongst the ancients. *Baker.*

By night, by day, a-field, at home,
The thoughts o' thee my breast inflame;
And aye I muse and sing thy name,
I only live to love thee.

Burns.

NAMES, PROPER, are those which represent some individual thing or person, so as to distinguish it from all other things of the same species; as Socrates, which represents a certain philosopher. Proper names are either called Christian, as being given at baptism; or sur-names: the first imposed for distinction of persons, answering to the Roman prænomen; the second for the distinction of families, answering to the nomen of the Romans, and the patronymic of the Greeks. Originally every person had but one name; as among the Jews, Moses, Joshua, &c.; among the Egyptians, Busris; among the Chaldees, Ninus; the Medes, Astyages; the Greeks, Diomedes; the Romans, Romulus; the Gauls, Brennus; the Germans, Ariovistus; the Britons, Cassibelan; the Saxons, Hengist, &c. And thus of other nations, except the savages of Mount Atlas, whom Pliny and Marcellinus represent as anonyne or nameless; though this is hardly credible. The Jews gave the name at the circumcision, viz. eight days after birth; the Romans, to females the same day, to males the ninth, at which time they held a feast, called nominalia. Since Christianity has obtained, most nations have followed the Jews, baptising and giving the name on the eighth day after the birth; except the ancient English, who baptised and gave the name on the birth-day. The first imposition of names was founded on different views, among different people; the most common was to mark the good wishes of the parents, or to entitle the children to the good fortune a happy name seemed to promise. Hence, Victor, Castor, Faustus, Statorius, Probus, &c. Accordingly, we find such names, by Cicero called bona nomina, and by Tacitus fausta nomina, were first enrolled in the Roman musters; first called to serve at the sacrifices, in the foundation of colonies, &c.—And, on the contrary, Livy calls Atrius UMBER, abominandi ominis nomen: and Plautus has a similar remark of a person named LYO, i. e. greedy wolf: hence, Plato recommends it to men to be careful in giving happy names; and the Pythagoreans taught that the minds, actions, and successes of men, were according to their names, genius, and fate. Thus Panormitan, ex bono nomine oritur bona præsumptio; and the common proverb, Bonum nomen bonum omen. Abbe Barthelimi says, that the greater part of names found in Homer are marks of distinction. They were given in honor of the qualities most

esteemed in the heroic ages. From the word polemus, which signifies war, have been formed Tlepolemus and Archeptolemus, the names of two heroes mentioned in the Iliad. The former signifies able to support, and the latter able to direct the labors of war. From thoes, swift, are derived, Alcahous, Panthous, Perithoes, &c. From nous, mind or intelligence, come Astynous, Arsinoe, Autonoe, &c. From medes, counsel, Agamedes, Eumedes, Lycomedes, Thrasymedes; and from clios, glory, Amphicles, Agacles, Ip-hicles, Patroclus, Cleobulus, &c. Hence Camden takes it for granted, that the names, in all nations and languages, are significative, and not simple sounds for mere distinction sake. Thus among the Turks, Abdalla signifies God's servant; Soliman, peaceable; Mahomet, glorified, &c.; and the savages of Hispaniola, and throughout America, who, in their languages, name their children Glistering Light, Sun Bright, Fine Gold, &c.; and they of Congo, by the names of precious stones, flowers, &c. Porphyry notes that the barbarous names, as he calls them, were very emphatical, and very concise; and accordingly it was esteemed a duty to be φηρονυμοι, or sui nominis homines; as Severus, Probus, and Aurelius, are called sui nominis imperatores. It was usual at giving names to wish the children might discharge their names: thus when Gunthrum, king of France, named Clotharius at the font, he said, Crescat puer, et lujus sit nominis executor. The ancient Britons, Camden says, generally took their names from colors, because they painted themselves; which names are now lost, unless they remain among the Welsh. When they were subdued by the Romans, they took Roman names, some of which still remain corrupted: though the greatest part became extinct upon the admission of the Anglo-Saxons, who introduced the German names, as Cridd, Penda, Oswald, Edward, &c.—The Danes too, brought with them their names; as Sweyne, Harold, Canute, &c. The Normans, at the conquest, brought in other German names, as originally using the German tongue; such as Robert, William, Richard, Henry, Hugh, &c., as the Greek names, Aspasius, Boethius, Symmachus, &c., were introduced into Italy upon the division of the empire. After the conquest, the English, who had ever been averse to foreign names, as deeming them unlucky, began to take Hebrew names; as Matthew, David, Sampson, &c. The various names anciently or at present obtaining among us, from what language or people soever borrowed, are explained by Camden in his Remains. The popes uniformly change their names at their exaltation to the pontificate; a custom first introduced by pope Sergius, whose name till then, says Platina, was Swinesnout. But Onuphrius refers it to John XII. or XIII. and gives us a reason for it, that it was done in imitation of St. Peter and St. Paul, who were first called Simon and Saul. Among the ancients, those deified by the heathen consecra-tions had new names given them; as Romulus was called Quirinus; Melicertes, Portunus &c. New names were also given in adoptions, and sometimes by testament: thus L. Æmilius, adopted by Scipio, took the name of Scipio

Africanus; and thus Augustus, who at first was called C. Octavius Thurinus, being adopted by Caius Julius Cæsar, took the name of Caius Julius Cæsar Octavianus. Names were also changed at enfranchisements into new cities. Thus Lucumo, at his first being made free of Rome, took the name of Lucius Tarquinius; and slaves, when made free, usually assumed their masters' names. Those called to the equestrian order, if they had base names, were always new named, nomine ingenuorum veterumque Romanorum. And, among the primitive Christians, it was the practice to change the names of the catechumens; thus the renegado Lucianus, till his baptism, was called Lucius. About the middle of the fifteenth century it was the fancy of the wits and learned men of the age, particularly in Italy, to change their baptismal names for classical ones. Among the rest Platina the historian at Rome, who, not without a solemn ceremonial, took the name of Callimachus instead of Philip. Pope Paul II., who reigned about that time, was suspicious and illiterate. He had no idea that persons could wish to alter their names unless they had some bad design, and actually scrupled not to employ imprisonment and other violent methods to discover the fancied mystery. Platina was most cruelly tortured on this frivolous account; he had nothing to confess; so the pope, after endeavouring in vain to convict him of heresy, sedition, &c., released him after a long imprisonment.

NAMPTWICH, or NANTWICH, a market town of Cheshire, situated on the Weever, fourteen miles south-east of Chester, and 164½ from London. It lies in the Vale Royal, and is one of the largest and best built towns in the county, the streets being very regular, and adorned with many gentlemen's houses. The inhabitants have three fairs, and a large market on Saturday for corn and cattle; and, as it is a thoroughfare to Ireland, they have a good trade in cheese and fine white salt, which are made to the greatest perfection; and in shoes sent to London. It is governed by constables, who are guardians of the salt springs. It is divided into equal parts by the Weever, which is not navigable farther than Winsford bridge. The Chester canal terminates in a handsome basin near this place. In this town were several religious foundations, now no more. The church is a handsome building in the form of a cross, with an octangular tower in the middle. This town appears to have been one of the chief salt works of the Romans, and is, by Ravenna, called Salinis. The salt springs are thirty miles from the sea, and lie mostly on the banks of the river Weever. Large mines of rock salt were also discovered here in the beginning of the eighteenth century, which, with their pillars and crystal roof, extend over several acres, affording a very pleasing and picturesque appearance.

NAMUR, an important inland province of the Netherlands, bounded by the French frontier, and by the Belgic provinces of Hainault, South Brabant, and Liege. Its superficial extent is about 920 square miles, of which the surface is nilly, but not unfruitful, and the climate temperate. It is watered by the Maese, the Sambre,

the Lesse, and the Homme; and stretches on the south into the forest of Ardennes. The agricultural productions are corn, potatoes, hops, tobacco, and fruit; the minerals, iron, lead, some copper, coal, and a fine marble. These furnish manufactures of iron, copper, paper, leather, and woollens; and the province sends two members to the states-general. It belongs to the sixth military division, under the jurisdiction of the high court of Liege. Before the French revolution, the greater part of the province, containing about 90,000 of the population, belonged to Austria, and the remainder to France; but in 1794 the whole was overrun by the French, and then constituted for twenty years, with the addition of part of Luxemburg, the department of the Sambre and Meuse. The part formerly belonging to Austria was, in 1814, incorporated with the kingdom of the Netherlands; and next year, after the battle of Waterloo, and the farther cessions by France, the French portion was added to it. Population 115,000. It is divided into three districts.

NAMUR, a well-built town of the Netherlands, the capital of the foregoing province, is situated between two eminences, at the conflux of the Sambre and Maese. Its population, said to have once approached to 30,000, does not at present much exceed half that number. The houses are in general of a blue stone, having red and black veins; and the streets wide and clean. The town is defended by a citadel, built on the summit of a high craggy rock, and once thought nearly impregnable. It contains a fine cathedral, and a church of the Jesuits; the former being a specimen of superior modern, and the latter of ancient architecture. From the vicinity of metal and coal mines, large manufactures of fire-arms, swords, knives, and scissars, are conducted here; brass founding, &c. Leather, paper, thread, and tobacco, are also fabricated.

Namur has often changed its masters. The castle and town were besieged and taken by the French under the duke of Luxemburg, in 1692; bombarded and retaken in 1695 by king William III., in the sight of an army of 100,000 French, and though there were 60,000 men in garrison. Namur was ceded to the house of Austria in 1713, but taken by the French in 1746; and restored by the treaty of Aix-la-Chapelle. On the 2nd December, 1792, it was taken by the French republicans, under general Valence; but they were forced by the allies to evacuate it in 1793. On the 16th July 1794, however, general Beaulieu, finding it no longer tenable, left it with only 200 men, who surrendered it next day, with a great quantity of artillery and stores, to the French: and it was annexed to France until the general arrangements of 1814. In June 1815 it was the scene of an obstinate conflict between the Prussians and the French, under general Grouchy, on his retreat from the battle of Waterloo. Population about 18,000. Thirty miles south-west of Liege. Long. 4° 51' 7" E., lat. 50° 28' 30" N.

NANCOWRY, one of the Nicobar Islands of the bay of Bengal. It forms, with two other islands, a very capacious and secure bay. The best entrance is on the east, the western being

only 100 fathoms wide, and the current, in tide-time, setting through it with great force. The soil of the islands is fertile, and produces a great quantity of cocoa nuts. The inhabitants are a civil quiet race of Mahometans. They raise a number of poultry, which, with the fruits of the islands, they barter for cloth, cutlery, tobacco, &c. The Danes had once a small missionary settlement here; but it has been for some time abandoned. Long. 93° 43' E., lat. 7° 57' N.

NANCY, a large, rich, and handsome town of France, the principal place of the prefecture of the same name, in the department of the Meurthe. A royal court is held here for the departments of the Meurthe, the Meuse, and the Vosges; there are also a lower court of judicature, a board of trade and manufactures, a central agricultural society, an academy of sciences and belles lettres, a university academy, a royal forest school and college, a free drawing school, and a faculty of medicine, midwifery, and botany. It is a hishopric and a post-town with 30,000 inhabitants.

This town stands in a charming situation, at the foot of the Vosges Mountains, and on the borders of a fine plain about a mile and a half from the left bank of the Meurthe. It is generally well-built, and is divided into the Old and the New towns; the latter is very magnificent, and most of it was erected by Stanislaus, the ex-king of Poland. The streets are broad and straight, with handsome houses; the public edifices are grand, the squares large, and adorned with fine fountains, and the walks delightful. The Place Royal especially is very beautiful; the Hotel de Ville, one of the finest buildings in France, occupies one of its sides; two of the others are intersected in the centre by two great streets, that terminate at opposite gates of the city, built in the form of triumphal arches. Near the walls is a mineral spring of some celebrity. Nancy was not built before the eleventh century; formerly it was fortified, and was taken in the year 1475 by Charles the Rash, duke of Burgundy, who was obliged to evacuate it the following year; but, a little time after, that prince besieged it again, and in 1477 lost his life under its walls. In 1633 Louis XIII. and cardinal Richelieu besieged and took it; and Louis XIV. in 1661 demolished all its fortifications, with the exception of the citadel, which is still standing. Callot, the celebrated engraver; Palissot; Madame de Graffigny; the poet Mollévaux; St. Lambert, a distinguished poet and philosopher; lieutenant general Drouot, and Pixérécourt, the dramatist, were born in this town.

The inhabitants carry on manufactures of embroidery of all sorts, cloths, woollen stuffs, hats, lace, paper-hangings, oils, candles, liqueurs, chemicals, iron and copper goods. There are also numerous cotton-spinning factories, dye-houses, tan-yards, and carriers' shops. The trade consists in the above articles, together with corn, wine, brandy, &c. The public institutions and buildings are, the library, containing 23,000 volumes; the museum, with its valuable collections; the cathedral; the government-house; the prefect's palace; the exchange; the assembly-room; the church of Bousecours, which contains the tomb of Stanislaus in white marble;

the masterpiece of Girardon; the old chateau of the princes of Lorraine; the barracks; the Bourbon race-ground; the departmental nursery; and the botanical garden, containing more than 4000 indigenous and exotic plants. This town is forty-three miles south of Metz, 111 west of Strasburg, and 253 east of Paris.

NANDAPRAYAGA, a place of pilgrimage in Northern Hindostan, the most northern of all the places of Hindoo worship, in the province of Serinagur, situated at the confluence of the Alacananda with the Nandaeni, a small river which flows from the south 30° E. Lat. 30° 22' N., long. 79° 22' E. There was formerly a temple on the spot; but it has been suffered to go to decay; and nothing but a heap of loose stones now invites the adoration of the pilgrims.

NANDERE, a small province of the Deccan, Hindostan, bounded on the north by Berar, on the south by Hyderabad and Beeder, on the east by Gundwana, and on the west by Aurungabad. The soil is fertile and well watered, capable of supporting a much greater population than it does at present; the whole number not exceeding half a million, of whom about one-tenth are Mahometans. The province has long been subject to the Nizam's family. The principal towns are Nandere, Candhar, Balcundah, and Nirmuhl.

NANGASACKI, an important sea-port of Japan, on the western extremity of the island of NIMO. Here alone are Europeans permitted to trade with Japan, and under severe restrictions. They are confined to the island of Desima, only 600 feet long and 120 broad, immediately adjoining to the town; and the Dutch are at present the favored power. At low water this island is separated from the rest of the town only by a ditch; but at high water it assumes the full insular appearance. It has two gates, one of which, looking to the town, is always well guarded and locked at night; the other, looking to the harbour, is open only when vessels are taking in, or discharging, their cargoes. The harbour is surrounded by mountainous shores, and is three miles broad by one in length, with depth for the largest ships over a muddy bottom; the rise of tide is considerable. The town is entirely open, the streets winding, with canals to receive the waters that descend from the mountains that rise all round the city; each street has a gate at each end, which is shut at night, and is sixty fathoms long; the number of houses is about 1000. Dutch Town, on the island Desima, is built lengthways, and contains some large fire-proof store-houses. The other houses are mean and have paper windows. There is a large house for the Japanese interpreters, and another for the Ottonas, an officer who reports all that passes here to the governor. The Dutch company pay fifteen per cent. and private traders seventy-five per cent. on all goods imported. No strangers are allowed to reside in Nangasacki. Near the shore are five large wooden houses, or rather sheds, in which the imperial junks, or men of war, are kept until ready to be launched. The goknia, or prison, is composed of 100 separate huts of different sizes and accommodations. The best buildings are the palaces of the

two governors, and those of other princes and grandees; there are sixty-two temples built on eminences. Long. 130° 12' E., lat. 32° 48' N.

NANI (John Baptist), a noble Venetian historian, born in 1616. His father was procurator of St. Mark, and ambassador from Venice to Rome. Pope Urban VIII. noticed the talents of young Nani. He was admitted into the college of senators in 1641, and was soon after nominated ambassador in France. He procured considerable succors for the war of Candia against the Turks; and became, after his return to Venice, superintendent of the war office and of finances. He was afterwards ambassador to the empire; in which station he rendered great services to his country. He was again sent into France in 1660 to solicit fresh succors for Candia; and on his return was appointed procurator of St. Mark. He died November 5th, 1678, aged sixty-three. The senate had appointed him to write the history of the republic; which he executed to the satisfaction of the Venetians, although the work was less admired by foreigners. In writing his history of Venice he has given a general history of his times, especially with respect to the affairs of the French in Italy. This history, which is continued from 1613 to 1671, was printed in Venice, in 2 vols. 4to, in 1662 and 1679.

NANKA ISLANDS, three small islands of the Eastern Seas, on the west coast of the island of Banca, supposed to be of recent formation. Iron ore and blood stone are found here; and they produce wood and excellent water, for which they are frequently visited. Bears, monkeys, and wild hogs are also found on them. Long. 105° 41' E., lat. 2° 22' S.

NANKANG, a city of China, of the first rank, in Kiangsee. In the interior, however, it is very poor, and contains little beside shops for the common necessities of life. But its former importance is clear from the ranges of pyloos or statues, richly sculptured, running along the streets; a pagoda of seven stories in good repair; and several halls of Confucius, distinguished by tablets bearing the names of departed worthies and idols. The city is situated on a branch of the Poyang Lake, bearing the same name. On a mountain near is a magnificent cascade. Long. 115° 39' E., lat. 29° 33' N.

NANKEEN, a well-known cotton stuff, deriving its name from the ancient capital of China. According to Van Braam, it is manufactured in the south-east of the province of Kiang-nam upon the sea shore. The color of nankeen is natural, the cotton down of which it is made being of the same tinge with the cloth. The color, as well as superior quality of this cotton, seems to be derived from the soil; for it is said that the seeds of the nankeen cotton degenerate in both particulars when transplanted to another province, however little different in its climate. The common opinion, that the color of the stuff is given by a dye, occasioned an order from Europe, some years ago, to dye the pieces of nankeen of a deeper color than they had at that period; and the reason of their being then paler than formerly is as follows:—Shortly after the Americans began to trade with China, the demand increased to nearly double the quantity it was possible to

furnish. To supply this deficiency, the manufacturers mixed common white cotton with the brown; this gave it a pale cast, which was immediately remarked; and for this lighter kind no purchaser could be found till the other was exhausted. But the demand afterwards lessening the white cotton was no longer mixed with it, and the color returned to its former standard.

NAN-KING, a city of China, capital of the province of Kiang-nan, is said to have been formerly one of the most beautiful and flourishing cities in the world. When the Chinese speak of its extent, they say, if two horsemen should go out by the same gate, and ride round it on full speed, taking different directions, they would not meet before night. This account is evidently exaggerated; but it is certain that Nan-king surpasses in extent of ground all the other cities of China, and perhaps of the known world. The exterior wall encloses an irregular polygon, divided into two parts, the inhabited and uninhabited. From the outer gate to the inhabited part is a distance of about six miles, entirely covered with gardens and bamboo groves. In the most prosperous state of the city, this part contained numerous villas of the Mandarins and other great men; but now it is chiefly occupied by peasants, cultivating garden grounds.

Nan-king is situated three miles from the river Yang-tsekiang, the largest in China, and was formerly the imperial city: hence the name signifies the southern court; but, since the six grand tribunals have been transferred to Peking, it is called Kiang-ning in all the public acts and Chinese records, and has lost much of its ancient splendor. According to the Chinese, it had formerly a magnificent palace, no vestige of which is now to be seen; an observatory at present neglected, temples, tombs of the emperors, and other superb monuments, of which nothing remains. A third of the city is deserted, but the rest is populous and busy, particularly in the manufacture of silk, which is the staple, and a species of cotton cloth, of which great quantities are imported into Europe under the name of Nankeen. The paper and printing of this city are still also superior; and it is the most literary of any of the Chinese cities. The streets are not so broad as those of Peking, but they are said to be very beautiful, well paved, and bordered with rich shops. In this city resides one of the mandarins called Tsong-tou, who takes cognizance of all important affairs, not only of both the governments of the province, but also of those of the province of Kiang-si. The Tartars have a numerous garrison here, commanded by a general of their own; and occupy a quarter of the city separated from the rest by a plain wall. The gates are beautiful; and some temples, among which is the famous porcelain tower, 200 feet high, divided into nine stories. See our article *CHINA*, vol. V., p. 600. It appeared to Mr. Ellis, in his late visit here, to be composed of a white tile, bearing the appearance of porcelain. At the top is a large ball, which the Chinese assert to be of solid gold. The structure bears the date of A. D. 1411.

The breadth and depth of the Yang-tse-kiang formerly rendered the port of Nan-king ver-

commodious; but at present the larger barks, or Chinese junks, never enter it. In April and May a great number of excellent fish are caught near the city, which are sent to court, covered with ice, and transported in that manner by barks kept entirely on purpose. These boats are said to make such expedition, that they arrive at Peking, a distance of 600 miles, in eight or nine days. This city, though the capital of the province, has under its particular jurisdiction only eight cities of the third class. It is said to contain 1,000,000 inhabitants.

NANTES, *Condivicnum*, an ancient, large, and handsome city and sea-port, and the chief place of a prefecture of the same name, in the department of the Lower Loire, France, a post-town and the see of a bishop, with 85,000 inhabitants. It has an inferior court of judicature under the royal court of Rennes, a board of trade, a bank, an exchange, an hydrographical school of the first class, a maritime syndicate, a royal college, a medical school, lectures on midwifery, an agricultural society, a society for marine insurance, a custom-house, and foreign consulates; and is the principal post of the twelfth military division.

This city is finely situated on the right bank of the Loire, at the point where it receives the streams of the Edre and the Sèvre Nantaise, and is one of the most important and most commercial cities in the kingdom, being next to Bourdeaux, the second port on the coast. It is generally well-built, very airy, and remarkable for the uniformity of its public squares; the isle of Feydeau, the square and neighbourhood of Graslin, and the royal square, may be compared with the finest parts of the capital. The quays especially are very grand, and the view of the Loire very striking, covered with vessels of every description; the smiling aspect of a fine and extensive country, rising in the form of an amphitheatre, the islands and meadows stretching along the banks of the river, and the bridges, at the end of which another town, as it were, is seen in perspective, will always be the admiration of strangers. The pleasantest part, however, is the quay or port of the Fosse, shaded along the bank of the river with beautiful elms, a mile and a half long, and bordered with noble houses adorned with balconies. No vessels above 200 tons burden can enter this port; larger ships stop at Paimbœuf to discharge part of their cargo, as the tide does not rise above five feet. At the end of the course of St. Peter, on the banks of the Loire, rises the old castle of the dukes of Brittany, which contributes by its picturesque effect to embellish this spot. Here it was that Henry IV., in 1598, granted the famous edict of Nantes, the revocation of which, by Louis XIV. in 1685, was fatal to France, by occasioning the emigration of a great number of artists, and other useful men, who carried their industry and their riches into foreign lands.

The vicinity of the sea, which facilitates its intercourse with foreign parts, and the navigation of the river which favors the conveyance of goods as far as Paris, afford the greatest scope for the trade of Nantes. This is considerable; and consists in corn, flour, biscuits, butter, dry vege-

tables, wool, leather (both common and morocco), building wood, agricultural instruments, Spanish and Portuguese wines, brandy, wine, sugar, fine liqueurs, &c. It is a general magazine for provisions for the navy, supplying the ports of Brest, L'Orient, and Rochefort, and carries on a great export trade with the whole of Europe and the East and West Indies. Its manufactures, besides the articles already mentioned, consist of stockings, linens, handkerchiefs, prints, flannels, chemical productions, corks, brushes, paste-board, nails, iron-cables, fishing-nets, pipes, delf ware, wooden shoes, &c. There is a fine rope-manufactory; also cotton-spinning mills, glass-houses, brass-foundries, brandy distilleries, vinegar breweries, sugar refining-houses, tanneries, curriers' shops, and white leather factories; cannon foundries, and dock-yards for large vessels, even to 1000 tons. Of all the large towns in France this is the cheapest to live in; there is abundance of all kinds of salt and fresh water fish.

The origin of Nantes may be traced to a very early date. Before the conquest of the Gauls it was the capital of the *Nannètes*, and a very powerful city in supporting those nations that dared to oppose the Romans. The inhabitants of this place were leagued with those of Vannes in a naval fight against Julius Cæsar; they defended their country with the utmost courage, and were the last to submit to the yoke of the conqueror. In 445 it sustained a terrible siege by the Huns; in 843 the Normans took it by assault, and massacred all the inhabitants; Geoffroy, count of Rennes, took it in 992; it was besieged, but without success, by the English in 1343; it was attacked by the earl of Buckingham in 1380, and delivered by Olivier de Clisson; in 1487 it was besieged again by the troops of Charles VIII.; and after the death of Anne, the last duchess of Brittany, it was reunited to France about the year 1553. On the 29th of June, 1793, the whole of the Vendean army, amounting to more than 80,000 men, attempted to carry it by storm; the patriotism of its citizens made up for the deficiency of their numbers, and, assisted only by a few battalions and squadrons of troops of the line, they obliged the invading army to retire. Since that time Nantes has been the theatre of the horrible executions ordered by Carrier and his bloody associates; the Nantese, however, are a people renowned for their uprightness, candor, generosity, humanity, and politeness, towards strangers; their manners are mild and less depraved than in other great towns of the kingdom. The town-hall, the prefect's palace, the exchange, surrounded with Ionic columns, and having one of its fronts adorned with the statues of several eminent French mariners; the assembly room, and the cathedral are fine buildings. Besides these there are the public library, the museum of pictures and antiquities, the cabinet of natural history, several beautiful walks and scenery on the banks of the rivers, that remind the traveller of some parts of Switzerland and Italy. Nantes is eighty-four miles south of Rennes, forty-eight north of Bourbon Vendée, and 286 south-west of Paris.

NANTUEIL (Robert) the celebrated de-

signer and engraver to the cabinet of Louis XIV. was born at Rheims in 1630. His father, a shop-keeper, gave his son a liberal education; who, having a taste for drawing, cultivated it with such success, that he became the admiration of the whole town: but marrying young, and not being able to maintain his family, he took a journey to Paris, where he made his talents known by a stratagem. Seeing several abbés at the door of an eating-house, he asked the mistress for an ecclesiastic of Rheims, whose name he had forgot, but that she might easily know him by a picture of him, which he showed: the abbés crowding round, were so charmed with it, that he offered to draw any of their pictures for a small sum. Customers came so fast, that he soon raised his price, and brought his family to Paris, where his reputation was quickly established. He took portraits in crayons, which he afterwards engraved for the academical theses; and in this way he took the portrait of the king, and afterwards engraved it as large as the life; a thing never before attempted. The king was so pleased with it, that he created the place of designer and engraver to the cabinet for him, with a pension of 1000 livres. He died in 1678. His prints amount to upwards of 240.

NANTUCKET, an island of the United States of North America in Massachusetts, is of a triangular form, about fifteen miles long, and eleven in extreme breadth, containing 29,380 acres. The soil is very productive in pasturage, though mostly sandy and lean. The cultivation is much neglected from the inhabitants being engaged in the whaling business. The island with several small ones near it forms a county, containing only the following town of the same name with the island. Eight leagues south of Cape Cod, and ten east of Martha's Vineyard.

NANTUCKET, formerly called Sherburne, a sea-port town on the island of this name, situated on the western side of a basin which lies in a bay on the north-west side of the island. The bay is formed by two projecting points; the longest, extending from the east end in a north-west direction, is called Sandy Point, on which is erected a light-house of stone; the other, forming the westerly side of a bay, is called Eel Point. At the entrance of the basin there are two points, three-quarters of a mile apart, which nearly land-lock the harbour, and render it safe from all winds. On Brant Point, at the right hand of the entrance, there is a light-house.

The town contains two banks, two insurance offices, a woollen manufactory, thirty spermaceti works employing a capital of 600,000 dollars, a reading room, and five houses of public worship, two for Friends, two for Congregationalists, and one for Methodists. The ground on which it is built rises gradually from the shore. The streets, except the main street, are narrow and irregular. The number of dwelling houses is stated at 720, and are almost wholly of wood. Very little attention has been paid to exterior elegance, but much to interior convenience and comfort. A fire-proof banking-house was built in 1827 in an elegant style. There are upwards of fifty private schools. Education is well attended to, and the inhabitants are distinguished for intelligence, as well as for enterprise.

The whaling business has been the principal employment of the inhabitants of this town for more than a century, and they are accounted the most expert and enterprising whalers in the world. They have now forty-five ships, which average upwards of 300 tons in this fishery. This town and port with its shipping suffered greatly during the late war with England.

NANTUCKET SHOAL, a bank above fifteen miles in length, and six in breadth, to the south-east from the island of its name.

NANTUCKET BAY, a bay of the United States, in New Jersey, on the east side of Delaware, and opposite Bombay Hook.

NAP, or } Sax. þnæþpan; Teut.
 NAPP, n. s. & v. a. } *napzen*, to sleep. A short
 NAP'-TAKING, n. s. } sleep: to sleep 'or slum-
 NAP'PY, adj. } ber; to be drowsy: and hence to be carelessly secure: nap-taking is seizure on a sudden, or in such a state: nappy is sleeping, or tending to produce sleep.

And whiles the housbonde taried alle thei *nappiden* and slepten. *Wiclif. Matt. xxv.*

Is ther no man for praiere ne for hire

That wol awaken our felaw behind?

A thefe him might ful lightly rob and bind:

See how he *nappeth*, for cokes bones,

As he wold fallen from his hors atones.

Chaucer. Cant. Tales.

Mopsa sat swallowing of sleep with open mouth, making such a noise as no body could lay the stealing of a *nap* to her charge. *Sidney.*

Let your bounty take a *nap*, and I will awake it anon. *Shakspeare.*

Naptakings, assaults, spoilings, and firings, have in our forefathers' days, between us and France, been common. *Carew.*

The sun had long since, in the lap

Of Thetis, taken out his *nap*. *Hudibras.*

They took him *napping* in his bed. *Id.*

So long as I'm at the forge you are still taking your *nap*. *L'Estrange.*

A wolf took a dog *napping* at his master's door. *Id.*

When I my thresher heard,

With *nappy* beer I to the barn repaired. *Gay.*

What is seriously related by Helmont, that four linen, stopt in a vessel that hath wheat in it, will in twenty-one days time turn the wheat into mice; without conjuring, one may guess to have been the philosophy and information of some housewife, who had not so carefully covered her wheat, but that the mice could come at it, and were there taken *napping* just when they had made an end of their good cheer. *Bentley.*

NAP, n. s. } Sax. þnæþpa; Swed. and
 NAP'LESS, adj. } Dan. *nopp*, *noppe*. Qu. from the above word? Down; the down or grain of cloth raised by dressing; fleeciness; softness: napless, destitute of nap or down; bare.

Amongst those leaves she made a butterfly

With excellent device and wondrous flight;

The velvet *nap*, which on his wings doth lie,

The silken down, with which his back is dignit. *Spenser.*

Were he to stand for consul, ne'er would he

Appear in the market place, nor on him put

The *napless* vesture of humility. *Shakspeare.*

Jack Cade the clothier means to dress the common-wealth, and set a new *nap* upon it. *Shakspeare.*

Plants, though they have no prickles, have a kind of downy or velvet rind upon their leaves; which

down or *nap* cometh of a subtil spirit, in a soft or fat substance.

Ah! where must needy poet seek for aid,
When dust and rain at once his coat invade;
His only coat! where dust confused with rain
Roughens the *nap*, and leaves a mingled stain? *Swift*.

NAPÆA, in botany, a genus of the polyandria order, and polyadelphia class of plants; natural order thirty-seventh, columniferæ: *CAL.* singular and cylindrical; the arilli coalited and monospermous. There are two species both with perennial roots, composed of many thick fleshy fibres which strike deep into the ground, and are connected at the top into large heads: the stalks grow to seven or eight feet high, producing white flowers, tubulous at bottom, but spreading open at top, and dividing into five obtuse segments. Both these plants are natives of Virginia and other parts of North America; from the bark of some of the Indian kinds a sort of fine hemp might be procured, capable of being woven into very strong cloth. They are easily propagated by seed which will thrive in any situation.

NAPE, *n. s.* Sax. *cnæp*, the top; Swed. *knæp*; Goth. *gnep*. (Thus the Latins styled the same part *summus*.) The upper joint of the neck.

Turn your eyes towards the *napes* of your necks,
and make but an interior survey of your good selves.

Domitian dreamed, the night before he was slain,
that a golden head was growing out of the *nape* of his neck.

Take de flea by the *nape* of the neck and put a bit of powder in his mouth and that will kill de flea.

NA'PHTHA, *n. s.* Lat. *naphtha*. Strabo represents it as a liqutation of bitumen. It swims on the top of the water of wells and springs. That found about Babylon is in some springs whitish, though it be generally black, and differs little from petroleum.

Naphtha is a very pure, clear, and thin mineral fluid, of a very pale yellow, with a cast of brown in it. It is soft and oily to the touch, of a sharp and unpleasing taste, and of a brisk and penetrating smell of the bituminous kind. It is extremely ready to take fire.

NAPHTHA is an inflammable substance of the bituminous kind. See **CHEMISTRY**. Large quantities are obtained from the city of Badku in Persia. The earth in the neighbourhood of this city is completely impregnated with naphtha. The inhabitants have no other fuel, or light but what they derive from this substance. For an account by captain H. Cox of certain similar grounds near Rangoon in the Burmhan empire, see **BURMHAN EMPIRE**.

Black petroleum is formed with sand into small cakes and used as fuel. Three of these balls are sufficient to heat an oven for baking bread, but the bread contracts a very disagreeable taste and odor. The lamps also are supplied with naphtha, and the fires of the lower classes. The Persians carry away great quantities in their vessels, but they are generally in such a bad condition, that the sea is often covered with naphtha to the distance of several leagues. In gloomy or stormy weather, the springs are in a state of the greatest ebullition, and the naphtha, which often takes fire spontaneously at the surface of the

earth, flows burning along the surface of the sea in quantities, and to a distance quite inconceivable. When the sky is clear, and the weather serene, the ebullition of the springs does not exceed two or three feet.

In consequence of boiling, the petroleum acquires, by the evaporation of the more volatile naphtha, a degree of consistence that obstructs by degrees the orifice of the spring, which then becomes surrounded with small heaps of maltha or earthy mineral pitch, a black substance, as hard and tenacious as pitch. When the resistance of this accumulation overcomes the force of the spring, the naphtha finds some other opening. Springs which have not been long opened, have an embouchure from eight to ten feet in diameter. The naphtha flows from these springs into various reservoirs by means of small cuts. In the first reservoir are left the water and the grosser parts which accompany the naphtha from the spring. This coarser matter, which has a strong and penetrating odor, is used for fuel only by the poorest classes of the Persians and other neighbouring nations. It is principally employed as a substitute for oil, or for making the fire-ball; already mentioned.

The whitest and the purest naphtha is obtained principally from the peninsula of Apcheron. It is more fluid and more volatile than any other kind, but it is obtained only in small quantities. The Russians drink it as a cordial; and when taken internally it is thought to be useful in cases of the stone, in pains in the head and chest, and in venereal affections and blennorrhagia, maladies to which the Persians and Russians are very much subject.

Naphtha is also used externally for scorbutic spots, and in cases of gout, bruises, sprains of the tendons, and nervous spasms. It is also employed to remove spots of grease from woollen and other stuffs, but it is difficult to destroy the disagreeable smell which it occasions.

According to Mongez, there are three kinds of naphtha, the white, reddish, and green or deep-colored; and it is a true petrol or rock oil, of which the lightest and most inflammable is called naphtha. It is of an extremely fragrant and agreeable smell; dissolves resins and balsams, but not gum-resins nor elastic gum. It dissolves in the essential oils of thyme and lavender, but is insoluble in spirit of wine and ether. It is as inflammable as ether; and attracts gold from aqua regia. Naphtha, says Cronstedt, is collected from the surface of wells in Persia; but Kirwan says, it issues out of white, yellow, or black clays, in Persia and Media. The finest is brought from a peninsula in the Caspian Sea, called by *Kempfer okefra*. It issues out through the earth into cisterns and wells purposely excavated for collecting it at Badku in Persia. Different kinds of it are also found in Italy, in Modena, and Mount Ciaro, twelve leagues from Plaisance. The formation of naphtha and petroleum is by most naturalists and chemists ascribed to the decomposition of solid bitumens by the action of subterraneous fires; naphtha being the lightest oil, which the fire disengages first; what follows gradually acquiring the color and consistence of petrol. The petrolea, united with some earthy

substances, or altered by acids, assume the appearance of mineral pitch, pissasphaltum, &c. This opinion is supported by the phenomena attending the distillation of amber; where the first liquor that rises is a true naphtha; then a petroleum of a brown color; and lastly, a black substance like jet, which, being farther urged by the fire, leaves a dry friable matter, &c. All the different kinds of petrolea are often found near the same spot; of which we have an instance of Mount Testin in Modena. It may be proper to add that, as an article of commerce, the value of naphtha has considerably diminished since the introduction of a nearly similar fluid, procured in the manufacture of coal gas. See PETROLEUM.

NAPHTUHIM, the fourth son of Mizraim, and grandson of Ham. Gen. x. 13. Calmet thinks his posterity peopled that part of Ethiopia in Africa between Syene and Meroe, of which Nepata was the capital; but the opinion of Borchart seems more probable, that they peopled Marmorica west of Egypt, and on the south coast of the Mediterranean, where a temple was built to the god Aptuchus, a name nearly resembling Naphthuhim. Nor is it improbable that Naphthuhim may be the Neptune of the Greeks, who was originally a Libyan, and had his temples usually built on the sea coasts.

NAPIER, or NAPEIR (John), baron of Merchiston, inventor of the logarithms, was the eldest son of Sir Archibald Napier of Merchiston, and born in 1550. After going through the ordinary courses of philosophy at the university of St. Andrews, he made the tour of France, Italy, and Germany. Upon his return to his native country his talents soon rendered him conspicuous, and might have raised him to the highest offices in the state: but declining all civil employments, and the bustle of the court, he retired to literary researches. He applied himself chiefly to the study of mathematics, and of the Apocalypse. The result of his theological labors was a treatise entitled *A plaine Discovery of the whole Revelation of Sainte John set doune in two treatises; set fourth by John Napier L. of Marchestoun younger: whereunto are annexed certaine oracles of Sibylla agreeing with the Revelation and other portiones of Scripture, 1593.* The work is dedicated 'to the right excellent high and mighty prince James V. king of Scottes;' and the author exhorts him to be ready for the final judgments on the papal throne which he supposed were about to commence. In the course of his work he shows that as the last trumpet or vial began in 1541, and as it contains 245 years, it should extend to A. D. 1786.—'Not that I mean,' says the noble author, 'that the world shall continue so long, because it is said that 'for the elect's sake those days shall be shortened,' but that if the world wer to endure, that seventh age should continew to the yeare of Christ 1786.' He also fixed the day of judgment between 1688 and 1700 A. D. Surely this is a sufficient specimen of the value of logarithmic talent and accuracy in interpreting prophecy. This work has however been printed abroad in several languages, particularly at Rochelle in 1693, 8vo., revised by himself. Nothing, says lord Buchan,

could be more agreeable to the Rochellers or to the Huguenots of France, at this time, than the author's annunciation of the pope as antichrist, which in this book he has set forth with much zeal and erudition. But what principally rendered his name famous was his great and fortunate discovery of the logarithms in trigonometry, by which the ease and expedition in calculation have so wonderfully assisted the science of astronomy and the arts of practical geometry and navigation. That he had begun about 1593 the train of enquiry which led him to that great achievement in arithmetic appears by a letter to Crugerus from Kepler in 1624; wherein, mentioning the Canon Mirificus, he writes thus: Nihil autem supra Neperianam rationem esse puto: etsi Scotus quidem literis ad Tychonem, anno 1504, scriptis jam spem fecit Canonis illius mirifici; which allusion agrees with the story mentioned by Wood in his *Athenæ Oxon.*, and explains it in a way perfectly consonant to the rights of Napier as the inventor. When Napier had communicated to Mr. Henry Briggs, mathematical professor in Gresham College, his wonderful canon for the logarithms, that learned professor set himself to apply the rules in his *Imitatio Napeirea*; and in a letter to archbishop Usher, in 1615, he writes thus:—'Napier, baron of Merchiston, hath set my head and hands at work with his new and admirable logarithms. I hope to see him this summer, if it please God; for I never saw a book which pleased me better, and made me more wonder.' Kepler dedicated his *Ephemerides* to Napier, in 1617; and it appears, from many passages in his letter, that he held Napier to be the greatest man of his age in the department to which he applied his abilities. The last literary exertion of this eminent person was the publication of his *Rhabdology and Promptuary* in 1617, which he dedicated to the chancellor Seton; and soon after died at Merchiston on the 3d of April, O. S., 1617, in his sixty-eighth year, and twenty-third of his happy invention. The titles of his published works are:—1. *A Plain Discovery of the Revelation of St. John.* 2. *Mirifici ipsius Canonis Constructio et Logarithmorum, ad Naturales ipsorum Numeros Habitudines.* 3. *Appendix de aliâ atque præstantiore Logarithmorum Specie Constituendâ, in quâ scilicet unitas Logarithmus est.* 4. *Rhabdologiæ, seu Numerationes per Virgulas, libri duo.* 5. *Propositiones quædam eminentissimæ, ad Triangula Spherica Mira Facultate resolvenda.* 6. *Letter to Anthony Bacon (the original of which is in the archbishop's library at Lambeth), entitled Secret Inventions Profitable and Necessary in these Days for the Defence of this Island, and withstanding Strangers Enemies to God's Truth and Religion; which the earl of Buchan has published in the Appendix to his Account of Napier's Writings.* This letter is dated June 2d, 1596, about which time it appears the author had set himself to explore his logarithmic canon. This eminent person was twice married. By his first wife, who was a daughter of Sir James Stirling of Kair, he had one son, who succeeded to the estate. By his second wife, a daughter of

Sir James Chisholm of Cromlix, he had a numerous issue.

NAPIER'S RODS, or BONES, an instrument invented by baron Napier, whereby the multiplication and division of large numbers is much facilitated. Suppose the common table of multiplication to be made upon a plate of metal, ivory, or pasteboard, and then conceive the several columns (standing downwards from the digits on the head) to be cut asunder; these are called Napier's rods for multiplication. But then there must be a good number of each; for as many times as any figure is in the multiplicand, so many rods of that species (i. e. with that figure on the top of it) must we have; though six rods of each species will be sufficient for any example in common affairs: there must be also as many rods or cyphers. The figures on every rod are written in an order different from that in the table. Thus the little square space or division in which the several products of every column are written, is divided into two parts by a line across from the upper angle on the right to the lower on the left; and, if the product is a digit, it is set in the lower division; if it has two places, the first is set in the lower, and the second in the upper division; but the spaces on the top are not divided; also there is a rod 'of digits, not divided, which is called the index rod, and of this we need but one single rod. See plate MISCELLANIES.

1. First lay down the index rod; then on the right of it set a rod whose top is the figure in the highest place of the multiplicand: next to this again, set the rod whose top is the next figure of the multiplicand; and so on in order to the first figure. Then is your multiplicand tabulated for all the nine digits; for in the same line of squares standing against every figure of the index-rod, you have the product of that figure; and therefore you have no more to do but to transfer the products and sum them. But in taking out these products from the rods, the order in which the figures stand obliges you to a very easy and small addition; thus, begin to take out the figure of the lower part, or unit's place, of the square of the first rod on the right; add the figure in the upper part of this rod to that in the lower part of the next, and so on; which may be done as fast as you can look on them. To make this practice as clear as possible take the following example:—To multiply 4768 by 385. Having set the rods together for the number 4768, as in fig. 2, against 5 in the index I find this number, by

adding, according to the rule . . .	23846
Against 8, this number . . .	38144
Against 3, this number . . .	14304

Total product . . . 1835680

To make the use of the rods more regular and easy, they are kept in a flat square box, whose breadth is that of ten rods, and the length that of one rod, as thick as to hold six (or as many as you please), the capacity of the box being divided into ten cells, for the different species of rods. When the rods are put up in the box (each species in its own cell, distinguished by the first figure of the rod set before it on the face of the box near the top), as much of every rod stands without the box as shows the first figure of that rod: also upon one of the flat sides without and near the edge, upon the left hand, the index-rod is fixed; and along the foot there is a small ledge; so that the rods when applied are laid upon this side, and supported by the ledge, which makes the practice very easy; but, in case the multiplicand should have more than nine places, that upper face of the box may be made broader. Some make the rods with four different faces, and figures on each for different purposes. These are also sometimes used in division.

NAP'KIN, *n. s.* As Dr. Johnson says, from nap; which etymology is oddly favored by Virgil, 'Tonsisque ferunt nantilia villis:' but Minshew, with more probability, 'From Fr. *nappe* (dimin.) i. e. *mappa*, quasi *parva mappa*, a little table cloth.' A cloth used at table for wiping the hands or mouth. Bishop Hall finely illustrates the word.

I am glad I have found this *napkin*;
This was her first remembrance from the Moor.

Shakspeare.

Those men are not more injurious to themselves, than to the divine beneficence, who, in an opinion of greater sanctity, abridge themselves of a moderate participation of those comfortable helps God hath allowed them; and sit sullenly at a liberal board with their hat pulled over their eyes; not so much as removing their *napkin* from their trencher; unjustly scrupling their conscience with 'Touch not, taste not.'

Bp. Hall.

The same matter was woven into a *napkin* at Louvain, which was cleansed by being burnt in the fire.

Wilkins.

By art were weaved *napkins*, shirts, and coats, in-consumptible by fire. *Brown's Vulgar Errors.*

Napkins Heliogabalus had of cloth of gold, but they were most commonly of linen, or soft wool.

Arbuthnot.

N A P L E S.

NAPLES, the continental division of the kingdom of the Two Sicilies, includes the ancient Apulia, Campania, Magna Græcia, and Samnium. Regarding Italy under the figure of a boot, it forms the foot and lower part of the leg, or comprises the whole southern part of that peninsula, extending from E. long. 13° 16' to 18° 59', and N. lat. 37° 46' to 42° 53', and is bounded on the north-west by the states of the Church; north-east by the Adriatic, and on the

south and south-west by the Mediterranean. From the papal territories to the southern extremity of Calabria it is computed to measure about 360 miles, and its greatest breadth is 120. In the adjacent seas it possesses the important dependent island of Sicily; and the smaller isles and dependencies of Ponza, Xentolia, Ischia, Procida, Nisida, Capri, Gall, Licos, and Dimo in the Mediterranean; in the Ionian Sea, Calypso, Monte Sardo, St. Andrea, and Santa

Pelagia; and in the Adriatic, Tremeti and Pelasosa. Naples somewhat exceeds Scotland in extent, containing fully 30,000 square miles; its population is above 5,000,000 by the returns of 1818, divided into the following provinces:

Provinces.	Principal towns	Inhabitants.
1. Napoli or Naples	Naples	330,000
2. Terra di Lavoro	Capua	7,200
3. Principato Citra	Salerno	10,000
4. Principato Ultra	Conza	6,000
5. Abruzzo Ultra I.	Aquilæ	13,600
6. Abruzzo Ultra II.	Terrano	
7. Abruzzo Citra	Chiti	12,300
8. Capitanta	Manfredonia	5,000
9. Molise	Bojano	10,000
10. Terra di Bari	Bari	18,000
11. Terra d'Otranto	Brindisi	6,000
12. Basilicata	Acerenza	
13. Calabria Citra	Cozenza	14,000
14. Calabria Ultra I.	Monte Leoni	8,000
15. Calabria Ultra II.	Reggio	16,000

Sicily contains in addition about 1,618,000 souls.

Like most other parts of Italy, Naples is remarkably mountainous, having many beautiful plains and extensive valleys, which its inimitable climate adorns with luxuriant vegetation. The Appennines traverse its whole extent. One of their branches extends to the coast, and reaches the Adriatic in the promontory of Gargano. The main ridge also divides it into branches about the parallel of Mount Vesuvius, the one stretching towards the south-eastern peninsula, the other intersecting Calabria to the shores of the strait that separates it from Sicily. The most elevated summit of this chain is Grand Sasso, rising about 8800 feet above the level of the sea. Velino is nearly 8300, and Sila 5000 feet in height. Various groups and detached mountains rise in other parts of the country. The Vulture, from which the wind Vulturinus had its name, is one of these, and the celebrated Vesuvius, standing on a space of nearly thirty miles in circumference. This is on the whole the most interesting object in this delightful country; yet its appearance at a distance is not striking, except during an eruption, as its height is only about 3600 feet. But, awoke in its volcanic wrath, 'the throes of the mountain, the subterranean thunders, the thickening smoke, the ruddy flames, the stony showers ejected to a prodigious height, amidst the coruscations of native lightning, with the eruption of the lava, descending in a horrid and copious stream of destruction, have exercised the powers of many writers,' and have been well said 'to exceed the utmost energy of description.' The southern part of this kingdom is subject to the destructive calamity of earthquakes, which have buried whole cities.

The rivers, from the narrowness of the peninsula and the height and position of the mountains, are all small. The principal are the Garigliano, the Voltorno, the Basiento, the Pescara,

the Sangro, and the Ofanto, the ancient Aufidus. The chief lakes are Celano, the ancient Tricimus, Agnano, Averno, Licola, Fusaro, Patrea, Lesina, and Fondi. Marshes abound on various parts of the sea coast, and render some of the most fertile tracks unfit for human abodes.

In point of climate Naples presents every variety that seems congenial to Europeans. The Campagna Felix, stretching on each side of the capital, is constantly genial, with a serene sky, and here the treasures of the vegetable kingdom are poured forth in rich profusion. During the most sultry parts of the year, the air is cooled and refreshed by breezes from the sea and mountains. In the mountainous districts the winters are more severe, and snow falls abundantly, though it seldom rests in the plains. In the vicinity of the marshes, the miasma become the parent of various diseases. Here, however, the fruits of the southern latitudes thrive, and the aloes and palm diversify the scenery. The weather is very various in different parts of Naples: the provinces between the Appennines and the Tyrrhenian Sea, are often drenched with rain, while those on the east of the same ridge do not experience a refreshing shower. Towards the Adriatic, indeed, many arid tracts are met with: but Calabria is on the whole very fruitful, except in the woods and marshes.

Agriculture, as may be expected, is in a very low state here: although the whole country presents a scene which would abundantly reward its efforts. But the scientific application of draining and manure, the division of labor, and the proper appropriation of the soil, are almost wholly unknown. Even the barbarous irrigation of the East has not been attended to on these shores.

Vines, olives, and grain, are often grown on the same spot; elms and poplars are planted in rows, for the support of the vines, and the intermediate places sown with grain or pulse: the grain is either separated from the straw by the treading of cattle, or by a large rough stone which is dragged over it, till the sheaves are broken, and the corn thrown out. Oxen are universally used for the business of agriculture. Indian corn, barley, and rye, are the most common kinds of grain, and rice in the low grounds. Flax and hemp are generally seen; and cotton and tobacco are grown in some of the southern tracts. Indigo was also introduced, and in the reign of Murat succeeded.

Chateauxvieux's Letters on Italy contain the following description of the valley-farming of Naples, furnished by a Neapolitan metayer. 'The poorer metayers,' he said, 'occupy only so much land as they can cultivate by their own families, that is to say, four or five acres. Our condition is not a good one, since we get for our trouble only a third of the produce, two-thirds belonging to the owner, which we pay in kind into the hands of the steward. We have no ploughs, and the whole is cultivated by the spade. It is true that the soil, being mixed with ashes, is easily stirred; and even our children assist us in this work. At times the mountain, hence named Vesuvius, pours forth showers of ashes, which spread over our fields and fertilise them. The trees,' he adds, 'which you see on

the land, are not without their use; they support the vine, and give us fruit; we also carefully gather their leaves: it is the last autumnal crop, and serves to feed our cattle in the winter. We cultivate, in succession, melons, between the rows of elms, which we carry to the city to sell; after which we sow wheat. When the wheat crop is taken off, we dig in the stubble, which is done by our families, to sow beans or purple clover. During six months our children go every morning to cut a quantity of it with the sickle, to feed the cows. We prefer the females of the buffalo, as they give most milk. We have also goats, and sometimes an ass, or a small horse, to go to the city and carry our burdens; but this advantage belongs only to the richer metayers. We plant the maize the following spring, after clover or beans. We manure the land at this time, because this plant is to support our families; this crop, therefore, interests us more than all the others, and the day in which it is harvested is a day of festivity in our country. All the villagers assemble together, the young women dance, and the rest of us walk slowly, being laden with our tools: arrived at our dwellings, each family goes into its own; but they are so near each other, that we can still converse together. We often gather seven ears from one stalk of maize, and many of them are three palms long. When the sun is high, the father of the family goes into the adjoining field to get some melons, while the children gather fruit from the surrounding fig-trees. The fruit is brought under an elm-tree, round which the whole family sits; after this repast the work begins again, and does not cease until the close of day. Each family then visits its neighbours, and tells of the rich crop the season has bestowed upon them. We have no sooner gotten in the maize than the earth is again dug, to be sown once more with wheat; after this second crop we grow in the fields only vegetables of different kinds. Our lands thus produce wine and fruit, corn and vegetables, leaves and grass for the cattle. We have no reason to complain of their fertility; but our conditions are hard, little being left for our pains; and, if the season is not propitious, the metayer has much to complain of.

The cotton plant, in the neighbourhood of Vesuvius, and in Sicily, is sown in March, in lines at three feet distance, and the plants two feet apart in the lines. The earth is stirred by a one-horse plough, or by hoes, and carefully weeded. As soon as the flowering season is over, about the middle of September, the ends of the shoots are nipped off, to determine the sap to the fruit. The capsules are collected as they ripen; a tedious process, lasting two months: the cotton and the seeds are then separated; an operation still more tedious. The most extensive cotton farmers are in the vale of Sorrento. There the rotation, according to Mr. Loudon, is, 1. maize; 2. wheat, followed by beans, which ripen the next March; 3. cotton; 4. wheat, followed by clover; 5. melons, followed by French or common beans. Thus, in five years, are produced eight crops. In this district, wherever water can be commanded, it is distributed, as in Tuscany and Lombardy, among every kind of crop. The to-

mato, or love apple (*solanum lycopersicum*, L.), so extensively used in Italian cookery, forms also an article of field-culture near Pompeii, and especially in Sicily, whence they are sent to Naples, Rome, and several towns on the Mediterranean Sea. It is treated much in the same way as the cotton plant.

The Neapolitan maremmes, near Salerno, adds this writer, 'to the evils of those of Rome, add that of a wretched soil. They are pastured by a few herds of buffaloes and oxen; the herdsmen of which have no other shelter during the night than reed huts; these desert tracts being without either houses or ruins.' The plough of this ancient Greek colony is thought to be the nearest to that of ancient Greece. The manna, a concrete juice of the *ornus rotundifolia*, forms an article of cultivation in Calabria.

Olives are abundant, while oranges, lemons, citrons, melons, almonds, dates, figs, pomegranates, and other tropical fruits abound in the south,

The domestic and wild animals are those of most other parts of Italy. Mules are employed chiefly in travelling, and the herds of buffaloes are found chiefly on the marshy plains in the north-west, while common cattle and sheep are bred in most others. The crested porcupine is peculiar to this part of Italy.

The mineral productions of Naples have never been fully explored. Rock salt, alum, vitriol, sulphur, crystal, and marble, are those best known: of the first Calabria contains several hills; but government, having a monopoly of bay salt, does not permit them to be wrought. Near Tarento are two salt lakes, covered with water in winter, but dried up in summer; when a quantity of fine white salt is deposited.

Among the natural curiosities of this country may be mentioned the Grotto del Cane, and the Solfatara: the first is a cave near Naples, from which a hot mephitic vapor constantly issues, and it derives its name from the following experiment, usually made with dogs:—The animal, when brought near the mouth, manifests his uneasiness by convulsive struggles, and soon becomes apparently lifeless; but, being removed, he recovers after a few minutes, and appears uninjured. These experiments, however, cannot be often repeated with the same dog without proving fatal, and a similar effect is produced on the human frame. The Solfatara is thus described by Mr. Eustace:—'The appellation of Solfatara is a corruption of Sulphutara, and given to an oval plain, extending on an eminence, but surrounded on all sides by an elevated border resembling a rampart. The shattered hills that form this rampart are impregnated with sulphur, and heated by a subterranean fire. They are destitute of all verdure, and of all appearance of vegetation. The plain below is a pale yellow surface of sulphureous marl, thrown like a vault over an abyss of fire. Its heat almost scorches the feet of those who pass over it, and the workings of the furnace beneath are heard distinctly through it. A stamp, or the rolling of a stone over it, rebellows in hollow murmurs, weakening as they descend, till they lose themselves in the vastness of the abyss

below. Sulphureous exhalations arise from the crevices; and from an orifice at one of the extremities a thick vapor by day, and a pale blue flame by night, bursts forth with a murmuring sound and great impetuosity.

‘In the sublimer phenomena of nature Naples is surpassed by no country. Here the earth frequently trembles, the volcano roars, the day is darkened with clouds of smoke, and the night is illuminated by vivid flames, while torrents of fiery lava roll in destruction over regions clothed in all the charms of nature. Cities have been so engulfed by the flood, that all traces of their existence were for ages lost. Of this *Herculaneum* and *Pompeii* are examples; and have become objects of the most interesting modern discoveries. The former is so deeply entombed indeed, and the substance with which it is covered is so complete a calc, as to cause the principal researches to be abandoned. But *Pompeii* being nearer the surface, and the matter more easily removed, great part of it, since the exertions of *Marat*, have been brought to the light of day. The following is one account of the work of disclosure, given by a gentleman who lately visited it:—‘The houses in general are very low, and the rooms are small, I should think not above ten feet high. Every house is provided with a well and cistern. Every thing seems to be in proportion; the principal streets do not appear to exceed sixteen feet in width, with side pavements of about three feet; some of the subordinate streets are from six to ten feet wide, with the side pavements in proportion; these are occasionally high, and are reached by steps. The columns of the barracks are about fifteen feet in height, they are made of tuffa with stucco; one-third of the shaft is smoothly plastered, the rest fluted to the capital. The walls of the houses are often painted red, and some of them have borders and antique ornaments, masks, and imitations of marble, but in general poorly executed. I have observed, on the walls of an eating room, various kinds of food and game tolerably represented; one woman’s apartment was adorned with subjects relating to love; and a man’s with pictures of a martial character. Considering that the whole has been under ground upwards of seventeen centuries, it is certainly surprising that they should be as fresh as at the period of their burial. The whole extent of the city, not more than half of which is excavated, may be about four miles.—*Williams*. But see our article *POMPEII*.

The Neapolitans are not a manufacturing people. The staple article is silk; but nearly half the quantity made is exported raw. To this may be added a few cottons, muslins, some embroidery; fire-arms, and porcelain (made in the capital); and we have the whole catalogue of their industry in these respects. The commerce partakes of the general languor of the inhabitants. Its chief exports are oil, silk, wool, wine, cotton, corn, and fruits. About 4000 cwt. of silk are reckoned as export. The imports are sugar, coffee, and other groceries; woollens, linens, cottons, of East India and of British manufacture; hardware, lead, tin clocks, watches, household furniture, and large quantities of salt

fish. Of these, by far the largest proportion is imported in British vessels. A commercial treaty, concluded in February 1816, places British subjects on a similar footing as to privileges with the natives. But French, Genoese, Venetian, and Trieste vessels frequent the Neapolitan ports. The fishery along the coast is by no means inconsiderable. On or near the lake *Facino* oysters have been bred from the time of the Romans. On the margin of the lake a house is constructed for those who take care of the oysters, and who sell them to the dealers in Naples, or to those who come and eat them on the spot. ‘Adjoining the house is a covered enclosure, where the oysters are kept till wanted; and along the margin of the lake, and in most parts of it, are placed circles of reeds, with their summits above the water. The spawn of the oysters attaches itself to these reeds, and grows there till of an edible size: they are then removed to the reserve, and kept there till wanted. In removing them the reeds are pulled up one by one, examined, and the full-grown oysters removed and put in baskets, while the small-sized and spawn are suffered to remain, and the reed is replaced as it was. The baskets are then placed in the reserve and not emptied till sold. In two years from the spawn, *Lasteyrie* observes, the oyster is fully grown.’

The Neapolitans retain some peculiar traces of ancient, and not a few of oriental manners. Like the ancients, they pass the greater part of the day in the open air; not indeed like them, to discuss the affairs of the forum, or the debates of the senate (of these they take no note), but from the mere want of emotion, from an intolerance of ennui, or to satisfy a vague and gaping curiosity. In the open air, they drink, they eat; and, if they work at all, it is in the open air. For this reason it is that the city of Naples has always the aspect of being over-peopled. The principal street (*Toledo*) has the appearance, especially towards the close of the day, of a popular rising. It would seem as if a *Massaniello* had convened his mob of noisy and factious citizens to overturn the state.

In feature, taste, and manner, the Neapolitans have obviously an affinity with oriental nations. But there are other characteristics which are exclusively their own. Mean and proud; superstitious and irreligious; indolent and avaricious; phlegmatic and irritable; the slaves of habit, but goaded with a feverish restlessness for any thing that is new; eager for change, but made for obedience; affecting independence, and yet idolaters and flatterers of wealth or greatness. At Naples (and only at Naples) is it customary to touch the garment of a grandee with veneration, and then to kiss the hand that has been honored with the contact. They are nationally proud, not like other nations, of their historical fame or actual greatness, but of the beauty of their climate, the fertility of their soil, and the splendor of their capital. As to their government, they hardly understand the word. They seem never to have asked, whether it is monarchical or republican. Such, however, are the unceasing contrasts of their character, that, with an utter insensibility on political subjects, their

ears tingle at the word 'liberty;' for in their vocabulary, liberty means the right of doing as they please, and of giving unrestrained vent to their appetites. They are therefore always ready to join the first demagogue who cries out 'liberty.' But the political idol of one day will be meanly abandoned on the next. They foam and effervesce, and then lie down with their accustomed apathy, and forget all that has passed. To-day they may be incited to massacre their fellow-citizens; to-morrow the blood-fever will subside, and they will be as calm and indolent as before. Without this key to the Neapolitan character, the short-lived revolutions so frequent in their history would be an inexplicable problem.

Perhaps, however, sufficient justice has never been rendered to the lowest classes here. Their vices lying on the surface, we are too apt to overlook their good qualities. Not that they are a moral race of men: they scarcely know what is meant by morals. But they have a wild and untutored sense of right. They are by no means seriously quarrelsome, their disputes evaporating in noise and clamor. In an instant they change from intense anger to the calmest indifference. Whoever throws a superficial glance on the character of this people, would suppose them liable to every excess of popular delirium. But the Neapolitan, the slave of every changing sensation, is perpetually varying from himself. Like his own Vesuvius, he seems to menace death and destruction. In an instant he is placid and serene, passing from hatred to love as rapidly, and almost as unconsciously, as the infant passes from tears to gladness. Hence it is that faction has ever found temporary aliment amongst this eccentric people, though the projects conceived in the moments of heat and frenzy are abandoned with an inconstancy far surpassing all that has ever been said or thought of the proverbial levity of the multitude. The middling classes are upon the whole the most respectable. The *paietiti*, one of the most thriving professions in Naples, the professors at the university, the merchants, and some portion, we wish we could say the larger portion, of the ecclesiastics, belong to this respectable division. Of the highest class, the manners are variously shaded. As if to show how extremes meet in national character, many of the nobility resemble in their moral features the despised race of the *Lazaroni*. In truth, they are equally indolent and superstitious, and in many respects equally ignorant. Educated for the most part in the cloister, or by incompetent preceptors, who hold in the family an inferior rank, and actually receive a less salary than the principal domestics, the Neapolitan noble arrives at mature years wholly unripe in understanding or judgment. Incompetent to the administration of his own affairs, and entirely absorbed in fêtes and spectacles, he falls into the hands of some needy lawyer, who fattens at his expense, or surrenders himself to some insinuating abbé, who has stolen into his confidence. His noble sposa, transferred from the gloom of a convent to the glitter of public life, without education or accomplishments, is driven to intrigue as a mere refuge from vacuity. Happily there

are exceptions to this remark; but all estimates of popular character must be formed chiefly of its more marked and prominent features. Upon the whole, indolence is the master vice of Naples. But the Neapolitans have in general much penetration; a lively and fertile fancy; a discourse sparkling with images. They catch almost instinctively the peculiarities and humors of others. Irony is their prevailing figure of speech. The extravagant and hyperbolic flattery which they address to those with whom they converse is frequently so much dissembled satire and latent epigram.

The robbers throughout the Neapolitan territory are increased rather than diminished since the war. Of the desperadoes, to whose outrages the traveller through those parts is exposed, and who it appears carry men away for the sake of the ransom, as before observed, Mr. Matthews relates the following anecdote:—'Two men were lately kidnapped from this neighbourhood, and taken up into the mountains. The friends of the one sent up nearly the sum that was demanded—the other had no friends to redeem him. The robbers sent the first man back without his ears; detaining them as a set off against the deficiency of the ransom; and the other poor fellow was returned in eight pieces!' It seems that in the Italian governments justice has not an arm long and strong enough to reach and suppress these horrible outrages. In the Neapolitan territory, through the whole line of road from Terracina to Capua, the danger from robbers is as great as in the Pontine Marshes, notwithstanding small parties of soldiers are encamped throughout the whole way at small intervals; but the wonder ceases when we are informed that the soldiers themselves, after dark, lay aside their military dress and act as banditti. Happy Naples, to receive a national revolution, and a new polity from the hands of those faithful reformers! Our own reformers were at one time, perhaps, not a whit better; but happily they were not in red coats. The whole way from Terracina to Naples, Mr. Matthews represents as very pleasing. The landscape is every where enriched and adorned with hedges of laurustinus; while the olives and vines, the orange and lemon groves, covered with fruit,—the myrtle, the fig, and the palm tree give to the scene an effect, at once soft, mellow, and lustrous; and yet, in the midst of the bounties and blessings of Providence, we shall find that man has contrived to make his lot miserable, if we regard the wretched condition of the mass of the inhabitants. Of this the bad government must doubtless take the principal share of the blame; but Mr. Matthews is quite right in attributing it in part to the very advantages themselves, which the country apparently enjoys; in the midst of spontaneous increase, man languishes for want of stimulus to his industry, and is rarely great, respectable, or happy.

There is great truth, however, in the spirited remarks of lady Morgan on this subject. 'It is a calumny against Providence, and a solecism in philosophy, to assert that there are nations so marked by physical tendencies to evil, so instinctively devoted to particular vices, that they remain unredeemable by good laws, incorrigible

by wise institutes! Almost all civilised nations have assumed a different moral phasis, according to the direction gradually given to them by political institutes. The heroes of Thermopylæ in one age, have, in another, been the slaves of barbarians; and a monk now governs, where a Cæsar trembled to assume the slightest insignia of power! The true instrument of man's degradation is his ignorance. Nature, which too frequently permits him to err, never teaches him to be vile; and the history of all countries bears out the philosophical observation of Dante, that

Se 'l Mondo laggìù ponesse mente,
Al fondamento che Natura pone,
Seguendo lui, avria buona la gente.
Paradiso, canto ottavo.

'It has been the fashion to accuse the Neapolitans of an inherent viciousness, over which external circumstances could hold no control; but the prejudice has only obtained currency in European opinion since that country has been the slave of Spain; for *conquered nations are always subjects of slander to their foreign masters*, who seek to sanction their own injustice by assuming the worthlessness of their victims. The base and bigoted descendants of Charles V., having madened or degraded the Neapolitans by a delegated and odious government, well suited to produce such an effect, assigned the results of their own despotism to the idiosyncrasy of the people. The Neapolitans, however, thus accused of cowardice and incapacity, in former ages had assisted the Romans to drive Hannibal out of Italy, and had preserved their independence at an epoch when the rest of Italy had lost it. The kingdom of Naples gave to ancient Rome, Ennius, Cicero, Horace, Ovid, and Statius; and to modern Europe, Tasso, Sannazaro, and Salvatore Rosa. Naples, in the lower ages, was the asylum of the little learning then left; and the greater part of the classics which have reached posterity was preserved by the learned industry of the Benedictine monks of Mount Cassin and Otranto. The flame of science was rekindled in the schools of Salerno; the pandects of Justinian (the code of legitimacy) were found at Amalfi; and in the sixteenth century its society, according to Apostolo Zeno, was so literary, that the intellectual of all countries might have chosen for their residence the favorite retreat of Virgil, of Seneca, of Livy, and of Claudian. But, above all other European countries, it was the glory of Naples to have resisted the papal power from its first foundation, to have disputed the asserted prerogatives of the see in all ages, and to have refused, invariably and successfully, the admission of that worst and most powerful of all engines of terror and degradation,—the Inquisition!

We may resume the literary history of this country; but must here allow our fair guide to exhibit her views of the general manner of the people.

'That large proportion of the population of the kingdom of Naples,' says this writer, 'called *'the people,'* presents itself more readily to the stranger's observation, than the same class in any other civilised nation in the world. Their

poverty scarcely leaves them a home to shelter in; and their climate renders a domicile rather a luxury than a necessity. The roof that skreens them from the inclemency of the night is the only roof they seek or know. The Lazzaroni, the refuse of the people, require not even this; a bench, or a boat, pillows their slumbers, and the sky is their canopy, except in those transient and violent gusts of bad weather to which Naples is subject; when the portico of a palace, or the colonnade of a church, affords them all the temporary shelter they require. The weather was occasionally very severe while we were at Naples; and it frequently happened that on returning late from the opera, or from assemblies, we found the filthy portico of our old palace strewn with Lazzaroni. Some lay upon the earth, others were flung over a cask, or gathered round a brasier of hot embers, just sufficiently bright to glare upon their marked and grotesque features. Nothing could be more courteous or cordial than their manner; they all jumped up to make way for us, welcomed us home, wished us a good night's rest; and one or two of them, who had got up some English phrases, applied them at random, by way of being particularly polite. One of the phrases most current upon the Mola was, 'Want a boat, Sir.'

'The daylight, which, according to the philosophy of Comus, *'alone makes sin,'* is not shunned by the lower Neapolitans under any pretence. In the full glare of its lustre, in the full observance of the public eye, all the duties and all the offices of life are frankly and undisguisedly performed; groups seated at the corner of streets, at the thresholds of the poorer sort of houses, on the shores of the Scoglio or the Mare-chiano, on the Mola or the Largo, talking, laughing, menacing, or singing, are all domestically (though not often sentimentally) employed; wants are supplied or satisfied; trades carried on; Tasso read aloud; and heads cleaned, or beards shaven, all equally *pro bono publico*.* A pulchinello and a *'padre predicatore'* (a preaching friar), in close contact, call on the sympathies of the dissipated and the devout at the same moment; and share between them the ever-laughing, moving, praying multitude; who seek sensations in proportion as they are denied ideas; and who, consigned unmolested to the influence of their vehement passions by the absence or feeble administration of the laws, are as destitute of moral principles as they are removed from the causes out of which moral principles arise, property and education. The falsity and dishonesty attributed to the Neapolitans, and always exaggerated, are the inevitable results of their social position. Their dishonesty, which rarely rises to acts of violence, except during political commotion, and which is generally accompanied by ingenuity and urged by poverty, is the natural vice of a people left without one conscientious principle, by that government whose laws have always been the slaves of power and privilege, and whose religion has a ready absolution, with its stated price,

* In every street in Naples stand one or more public *toilettes* for the use of the lower orders.

for every sin. Honesty and probity come with property; those who know the value of possession respect it in others on a selfish principle. To take what we want, is an instinct; to resist the temptation of satisfying that want upon principle is the result of knowledge and reflexion, guarded by opinion, and by the conscious existence of just laws, equally protecting and benefiting every member of the social compact.

‘The great mass of the population of the kingdom of Naples (including the Abruzzi and Calabria) are Arabs in their habits and principles, and Greeks in their subtily and talents.

‘When Massena had occasion to send a courier into Calabria, he was obliged to give him an escort of 150 men. There are scarcely any public roads or inns, a strong proof of incivilisation. The better orders are hospitable and munificent, and live like Arab chiefs. The predatory bands of this district, which Ruffo found so available, are frequently 500 strong. Of their ferocity and notions of honor the following anecdote was related to us:—A party of these banditti, about a year before we heard the anecdote, kidnapped a young Neapolitan, the heir of a wealthy family; and sent word to his father that they required 10,000 ducats for his ransom. The father sent them four, with an expostulatory letter; they returned the money and made no answer. The terrified father sent the whole sum, after some delay; but it was returned to him untouched, with the horrible intimation that his son was no more. A Neapolitan gentleman of eminent talent, who, for a considerable time, had a military command in Calabria under the French, assured us that the Calabrians were not only the finest race of people in Italy, but the most susceptible of civilisation and intellectual improvement; the upper classes are purely Greek in their tastes and talents, and are distinguished for their domestic affections and boundless hospitality. A Calabrian never betrays a confidence placed in him. Roads opened, manufactories and schools established, would rapidly redeem this people from their wild and lawless existence; but the government, when it levies and extorts taxes for them, does nothing more; and some of its banditti are said to be in its pay, and even to be looked upon as efficient allies in cases of emergency, to let loose against subjects who sigh for constitutions: their services under Ruffo are not forgotten.

‘They (the Neapolitans) are devoted to a religion which insures them their feste popolari; they are attached to a government which has licensed their violence and indolence, and not only sanctioned, but allied itself with their predatory bands. The banditti of Puglia, led on by the Vardarelli (two brother chiefs of predatory celebrity), made terms with the government, and were for a time received into its pay. These were the causes which rendered the revolution distasteful to the lower orders, and which, when they were forced to take a part in the contests between independence and despotism, inclined them towards the latter. All governments are in the abstract alike to the outlaw; but the government which most favors disorder, moral and political, will best suit the professional

bandit of the Ahruzzi, or the brutal Lazzarone of Naples.

‘To the long enslaved, long debased, lower classes of the Neapolitan dominions, the motives presented were not adequate to the sacrifice demanded. In their apprehension, political independence is but a metaphysical term! a pure abstraction!—they know nothing of its theory or its practice, of its benefits or its results. Accustomed for ages to misrule, they feel its force only in its more immediate causes; and they seize not the chain of inductions which unites the constitutional movement with their personal interest. Had they been given a Madonna to defend, or any sensible image to rally under, they might have been found more firm in the hour of danger; but they were not prepared to fight for independence—a word of which the despotism of Spanish, Austrian, and Bourbon kings had left them in perfect ignorance.’

‘The religion of the lower orders in Naples is scarcely Catholicism. It is not a creed; it is a tradition—descended rather from their Greek ancestors than imbibed from the Roman church, to which they have always opposed themselves. Of all Christian sects, the church of Naples is perhaps the most idolatrous, and at the same time the least intolerant. It seeks not to scrutinise too closely religious professions, or to investigate the faith of those who maintain a decent exterior. Too secure for doubt, and too enjoying for activity, it will not hear of persecution; and even its bishops teach, that the first Christians were but enlightened reformers, who endeavoured, in the worst times, to purify the corruption of society. The gross minds and ardent imaginations of the neglected and vivacious people know nothing of the abstract dogmas of religion: they require and possess a tangible creed—a something to see and touch, to complain of, and to adore. The wild Calabrian treats his tutelary saint according to his merits: he is prodigal of praises to his honor and glory, or he flings him down the mountain, or knocks him off his shrine, as he finds him propitious or otherwise. We were assured that saint Gologaro (the patron of Calabria) had seldom his due complement of limbs and features; but, when good harvests and fine weather brought him into favor, his pardon was asked, his nose glued on, his face fresh painted, and his sanctity replaced in all its honors. In the old part of Naples, where every thing remains as the Arragons and Aujous left it centuries back, the narrow gloomy lanes abound in idol-shops. Here are to be purchased offerings for altars, such as the votarists of Flora and Pomona presented at their shrines, when Naples was a Greek colony—large bouquets of flowers, made of tin, feathers, or paper—fruits in wax—strings of noses, ears, eyes, and fingers—‘Salvatori’ of all sizes and ages, from the cradle to the sepulchre—‘Madri dolorose,’ or ‘del conforto’—and Magdalen in all their stages of penitence or beatitude. In one of these shops we found a dirty boy carving a Madonna out of a block; and an old man, his master, sticking glass eyes in the head of St. Januarius; meantime an old woman stood baggling with the Padrona, who was selling

saints as the mistresses of toy-shops sell dolls. The pious purchaser was long undecided, between a crucifix and a St. Sebastian struck through with arrows; at last, she fixed on the former, wrapped it up in her pocket handkerchief, and hobbled off to nail it up at her bedside, as an idol to receive all those invocations which fill up the time and satisfy the cupidity of a devotee.'

Our author very justly adds 'the ill-success of the late effort, so far from affording an argument favorable to the views and crimes of invading despotism, is an additional proof of the inhuman selfishness of the invader. What is to be said of a government which reduces the great majority of the people to a slavish insensibility to national degradation,—to a perfect indifference to national honor—a government which renders the subject too ignorant to comprehend the causes of his sufferings, and too listless to seek their removal?'

The *ancient history* of this country falls under the articles *ROME* and *ITALY*; the present state of it, as well as the rest of Italy, had its basis in the conquests of Charlemagne. When he put an end to the kingdom of the Lombards, he obliged the dukes of Friuli, Spoleto, and Benevento, to acknowledge him as king of Italy; but allowed them to exercise the same power and authority which they had enjoyed before his conquest. Of these three dukedoms Benevento was by far the most powerful and extensive: it comprehended almost all the present kingdom of Naples; that part of Calabria Ultra beyond the Savuto and Peto, a few maritime cities in Calabria Citra, with the city of Acripoli and the promontory of Licosa; and, lastly, the dukedoms of Gaeta, Naples, and Amalsi, which were very inconsiderable, and extended along the shore only about 100 miles, interrupted by the Gastaldate, or county of Capua. This flourishing and extensive dukedom was at this time governed by Arechis, who had married one of the daughters of Desiderius, the last king of the Lombards, and had submitted and taken the oath of allegiance to the emperor Charles. But a few years after he renounced his allegiance to the Franks, and declared himself an independent sovereign. To strengthen himself against Pepin king of Italy, who resided at Ravenna, he enlarged and fortified the city of Benevento, and built Salerno on the sea-coast, surrounding it with a very strong and high wall. He engaged in several wars with the Greeks, whom he sometimes obliged to give him hostages; but, having invaded the territories of the pope, Charlemagne returned to Italy. Arechis, unable to oppose such a formidable enemy, sent his eldest son, Romuald, to Rome, with an offer of submission; but, at the instigation of the pope, Charles refused the offer, and detained his son prisoner; after which he ravaged the country, and made himself master of Capua. Other deputies, however, proved more successful; and, in 787, a peace was concluded on these conditions: That Arechis and the Beneventans should renew their allegiance to the Franks; that he should pay a yearly tribute to Pepin, deliver up all his treasure, and give his son Grimoald and his daughter Adelgisa, with

twelve others, as hostages for his fidelity; however Adelgisa was restored to her father. Charles had no sooner left Italy than Arechis forgot all his engagements, and began to negotiate with Irene, empress of Constantinople, for expelling the Franks out of Italy. For himself, he desired the honor of patriciate, and the dukedom of Naples; and, in return, promised to acknowledge the Greek emperor as his sovereign. He required, however, to be supported by a Greek army; and that his brother-in-law Adalgifus, son to king Desiderius, should be sent over into Italy to raise a party. These conditions were readily accepted, on condition that prince Romuald should be sent as a hostage; but, before the completion of the terms, prince Romuald died, and soon after him his father.

After the death of Arechis, the Beneventans sent a most submissive embassy to Charlemagne; in consequence of which Grimoald, the late king's son, was allowed to assume the government, after he had agreed to several conditions, of which two were, That he should oblige the Lombards to shave their beards; and that he should cause the walls of Salerno, Acerenza, and Consia, to be demolished.—The new king for some time continued faithful to his engagements, excepting the last article. Yet having contracted an alliance with the Greek emperor, by marrying his niece Wanzia, in the fifth year of his reign a war broke out between him and Pepin, which continued for twelve years; after which a truce was concluded. Grimoald survived this pacification three years, and was succeeded by his treasurer Grimoald II., who submitted to Charlemagne after the death of Pepin; and from this time the Beneventans were looked upon as tributaries of the western emperors. As yet, however, Naples did not own allegiance to the dukes of Benevento, but was held by the eastern emperors; and frequent wars took place between the Beneventans and Neapolitans. This was the case when Grimoald II. ascended the throne. He concluded a peace with them, but it was of short continuance; for Theodore governor of Naples, having granted protection to Dauferius, a noble Beneventan, who had been concerned in a conspiracy against his prince, Grimoald marched against Naples, and invested it by sea and land. Theodore still refused to deliver up the traitor, and a general engagement ensued by land and sea; in which the Neapolitans were defeated with so great slaughter, that the sea was stained with their blood for above seven days. Theodore then consented to deliver up Dauferius, with 8000 crowns for the expenses of the war: and Grimoald not only pardoned Dauferius, but received him into favor; the traitor, however, was seized with remorse, and went on pilgrimage to the Holy Land, carrying a large stone in his mouth, by way of penance, which he never took out but at meals. In 821 Grimoald was murdered by Radelchis, count of Consia, and Sico, gastald of Acerenza, the latter of whom succeeded to the duchy of Benevento. Radelchis, being soon after seized with remorse, became a monk; while Sico associated his son Sicardo with him in the government, and soon after attacked the Neapolitans, and invested the city by sea and

land. The walls were furiously battered, and part of them being beat down, Sico prepared for a general assault. Stephen, then duke of Naples, pretended to submit; but intreated Sico to put off his entry till the morning, and in the mean time sent his mother and his two children as hostages. Sico consented, but next morning found the breach built up, and the Neapolitans prepared for their defence. Exasperated at their perfidy, he renewed his attacks with vigor, but without success; the besieged defending themselves with the utmost obstinacy. At last they consented to a peace, on condition that the Neapolitans should pay an annual tribute to the princes of Benevento, and consent to the transporting of the body of St. Januarius from his church without the walls of Naples to Benevento. These terms being ratified, Sico returned to Benevento; but soon after renewed the war, under pretence that the Neapolitans had neglected to pay the stipulated sum; and hostilities continued till his death, which happened in 833. Sico was succeeded in the government of Benevento by his son Sicardo, who had married the daughter of Dauferius; and being influenced by Roffrid, his wife's brother, oppressed his subjects to such a degree that they conspired against his life. He besieged Naples with a powerful army, and took possession of Acerra and Atella. But Bonns, the Neapolitan duke, defended himself so vigorously, that the Beneventans were obliged to retire, and even to abandon Acerra and Atella. At last Sicardo agreed to a peace for five years, on the intercession of the emperor Lothaire, in 836, after the war had continued, with very little intermission, for sixteen years. Soon after this peace the Saracens landed at Brindisi: and, having taken it, ravaged all the neighbouring country. Sicardo marched against them with a numerous army; but the Saracens having dug a great number of ditches, which they slightly covered over, drew the Beneventans in among them, whereby they were repulsed with great loss. However, Sicardo, having reinforced his army, marched again to attack them; but the Saracens pillaged and burnt Brindisi, and retired with their booty and many captives to Sicily. Sicardo then attacked Amalfi, levelled its walls, carried off its wealth, and the body of its tutelar saint, Triphomen, and transported many of its inhabitants to Salerno. During these transactions, Sicardo had tyrannised over his subjects in such a manner, that he became intolerable. His nobles were at last provoked to conspire against him; and, in 839, he was murdered in his tent.

On the death of Sicardo, Radelchis, his secretary or treasurer, was unanimously elected prince of Benevento; but Siconolphus, the last king's brother, having regained his liberty, formed a great party against the new prince. Radelchis opposed him with a formidable army; and a most ruinous civil war ensued. Both parties by turns called in the Saracens, and these treacherous allies acted sometimes against the one and sometimes against the other; or turned their arms against both, as seemed most suitable to their own interest. Thus the war continued with the utmost animosity for twelve years, during which

time the principality was almost entirely ruined; till at last the emperor Louis II. interposed, and obliged the competitors to agree to a partition of the principality. By this treaty Radelchis promised to acknowledge Siconolphus and his successors as lawful princes of Salerno, which was declared to contain Tarento, Latiniano, Cassano, Cossenzo, Laino, Lucania, Consia, Montella, Rota, Salerno, Sarno, Ciraterium, Furculo, Capua, Feano, Sora, and the half of the gastaldate of Acerenza, where it joins Latiano and Consia. The boundary betwixt Benevento and Capua was fixed at St. Angelo and Cerros; Alli Peregrini was made the boundary betwixt Benevento and Salerno, and Staffilo betwixt Benevento and Consia. The monasteries of Moute Cailino and St. Vincent were declared to be immediately under the protection of the emperor; both princes stipulated that no hostilities should be committed by either against the subjects of the other, and promised to join their forces to drive out the Saracens. Soon after this pacification, however, both Radelchis and Siconolphus died; the former appointing his son Radeclare to succeed him, and the latter leaving an infant son, Sico, to the care of his godfather Peter. The war with the Saracens proved very unsuccessful; neither the united efforts of the princes, nor of the emperor Louis himself, being able to expel the infidels; and, in 854, Adelgise the second son of Radelchis, who had now succeeded, on the death of his brother Radelcar, to the principality of Benevento, was obliged to pay them an annual subsidy. Two years after, Lando, count of Capua, revolted from the prince of Salerno, and could not be reduced. In the mean time, Sico, the lawful prince of Salerno, had been poisoned by count Lando, and the principality usurped by Ademarius, the son of Peter above mentioned; but in 861 Ademarius was seized and imprisoned by Gauferius, the son of Dauferius formerly mentioned. This was occasioned by his cruelty and rapaciousness, which entirely alienated the hearts of his subjects from him, and encouraged Gauferius to become the head of the conspirators. The Saracens in the mean time committed terrible ravages throughout the Beneventan territories; which at last obliged Adelgise to enter into an alliance with Gauferius, and both together sent an embassy to the emperor Louis, requesting him to take them under his protection. About the same time an embassy arrived from Constantinople, proposing a junction of the forces of the Eastern and Western empires against the infidels; upon which Louis gave orders for assembling a formidable army. But in the mean time Adelgise made peace with the Saracens; and even encouraged them in their incursions into the duchies of Capua and Naples, which they ravaged in a most barbarous manner. The Neapolitans, in conjunction with the duke of Spoleto and the count of Marsi, opposed them; but, being defeated, they continued their ravages with redoubled fury, and retired to Bari, their capital, with an immense booty. In 866 Louis arrived at Sora with his army; and, having marched to Capua, was there joined by Landulph, the bishop and count, with a body of Capuans; but Landulph soon after persuading his country-

men to desert, Louis marched against that city, which he took after a siege of three months, and almost totally destroyed. In the end of the year he was joined by Gauferius, with his troops, having ordered the eyes of Ademarius to be put out in his absence. Louis confirmed him in the principality, and marched with his army to Benevento, where Adelgise received him with great respect. Having reduced some places belonging to the Saracens, Louis invested Bari; but as the Saracens received continual supplies from their countrymen in Sicily, and besides were protected by the Neapolitans, he could not reduce the place till 871, though he had received considerable assistance from his brother Lotharius, and the Greek emperor had sent him a fleet of 200 sail. The expulsion of the Saracens was completed the same year by the taking of Tarento; after which the emperor returned with great glory to Benevento, resolving next to carry his arms into Sicily, and expel the infidels from thence also. But his schemes of farther conquests were frustrated by a quarrel between him and Adelgise. The latter, pretending to have been insulted by the empress, and oppressed by the French, seized the emperor, and kept him prisoner for forty days. But a body of Saracens having arrived from Africa, and laid siege to Salerno with an army of 30,000 men, ravaging the neighbouring country with the utmost barbarity, Adelgise was so much alarmed that he set the emperor at liberty, after taking his oath that he would not revenge the insult, and that he would never return to Benevento. Louis, having then joined his forces to those of the prince of Salerno, obliged the Saracens to raise the siege of Salerno; but, though they were prevented from taking that city, they entirely desolated Calabria. In 873 Louis went to Benevento, and was reconciled to Adelgise, but soon after died; and the Saracens continued their ravages to such a degree that the inhabitants of Bari delivered up their city to the Greeks. At the same time the Salernitans, Neapolitans, Cajetans, and Amalsitans, having made peace with the Saracens, were compelled to agree to their proposal of invading the territories of the Roman pontiff. His holiness exerted himself to the utmost, both with spiritual and temporal weapons, to defend his right; but was at last obliged to become tributary to the infidels. In the mean time all Italy was thrown into the greatest confusion by the death of Charles the Bald, who was poisoned at Pavia, as he was coming to the pope's assistance. Sergius, duke of Naples, continued a firm friend to the infidels, notwithstanding the thunder of a papal excommunication; but happening to fall into the hands of his brother Athanasius, bishop of Naples, that prelate put out his eyes, and sent him prisoner to Rome.

In 876 Adelgise was murdered by two of his nephews; one of whom, by name Caidaris, seized the principality. About the same time Landulph, bishop of Capua, dying, a civil war ensued among his children. The princes of Salerno and Benevento, the duke of Spoleto, and Gregory, the Greek governor of Bari and Otranto, took different sides in the quarrel; the new bishop was expelled, and his brother,

though a layman, chosen, and even consecrated by the pope, who wrote to Gauferius, forbidding him to attack Capua under pain of excommunication. But though Gauferius was, in general, obedient to the pope's commands, he proved refractory in this particular, and laid siege to Capua for two years successively. Thus the Capuan territories were reduced to the most miserable situation; being obliged to maintain at the same time the armies of the prince of Benevento and the duke of Spoleto. The Saracens in the mean time strengthened themselves in Italy; and Athanasius entered into an alliance with them, and ravaged the territories of the pope, as well as those of Benevento and Spoleto, plundering all the churches, monasteries, towns, and villages, through which they passed. Meantime the prince of Salerno was obliged to grant them a settlement near his capital; the duke of Gaeta invited them to his assistance, being oppressed by the count of Capua; and even the pope was obliged to make peace with them, and to grant them a settlement on the north side of Carigliano, where they fortified themselves, and continued for more than forty years. To put a stop to the confusion in Italy, the pope restored the bishop of Capua, but allowed his brother to reside in the city, and govern one half of the diocese; but, notwithstanding this partition, the civil dissensions continued with the utmost violence, the nearest relations murdering or banishing each other, according as the fortune of the one or the other prevailed. Athanasius, notwithstanding the pope's remonstrances, continued his alliance with the Saracens; in conjunction with whom he ravaged the territory of Benevento, and fomented the divisions in Capua, in hopes of being able to conquer it. At last the pope excommunicated him, which attached him to the Saracens more than ever; insomuch that he invited Suchaim, king of the Saracens in Sicily, to come over and command a great body of his countrymen who had settled at the foot of Mount Vesuvius. Suchaim accepted the invitation, but immediately turned his arms against Athanasius; allowing his troops to live at discretion in the territory of Naples, where they ravished the women and plundered the inhabitants. These calamities being, by the superstitious Neapolitans, imagined to be consequences of the excommunication, they persuaded the prelate to renounce all connexion with the infidels. Athanasius accordingly concluded an alliance with Guimarius prince of Salerno, whereby the Saracens were obliged to quit the Neapolitan territories, and retire to Agropoli. Athanasius then directed his force against Capua, of which he made himself master in 882. The Saracens, however, still continued their incursions, and desolated several provinces. These confusions continued for a long time; and during which the Greeks made themselves masters of Benevento, in 892, and had well nigh become masters also of Salerno; but in 896 they were totally expelled by the bishop. In 915 the Saracens received a complete overthrow at Carigliano. But a new body soon arrived from Africa, and invested the sea-coasts. A war also ensued between Landulph and the Greeks; which concluded disadvantage

ously for the former, who was obliged to submit in 943. In 961 Otho the Great, emperor of Germany, invaded Italy with a powerful army against Berengarius III., and, marching to Rome, received the imperial crown from the hands of the pope. In 964 he erected Capua into a principality, and received homage from the other princes of Lombardy. After various hostilities a treaty was concluded, and the young princess Theophania married to Otho's son, afterwards emperor. All this time the Saracens continued their incursions, and the Greeks had gained ground so much, that they were now in possession of two-thirds of the kingdom of Naples; but in 1002 or 1003, the Normans began to be remarkable in Italy. They had, about a century before, embraced Christianity, and become very zealous in all the superstitions then practised. They were particularly zealous in visiting sacred places, especially Rome, and the holy sepulchre at Jerusalem; and, being of a very martial disposition, they forced through great bodies of Greeks and Saracens who opposed their passage. About this time 100 of these Normans, returning from Jerusalem by sea, landed at Salerno, in the habit of pilgrims, where they were honorably received by Guimarius. During their residence at Salerno, a great body of Saracens landed, and invested the city. Guimarius, not being in a condition to oppose the invaders by force, was preparing to pay them a large sum of money, when the Normans proposed to attack them; and, having got arms and horses, they engaged the infidels with such bravery, that they entirely defeated them, and obliged them to fly to their ships. By this victory Guimarius was filled with such admiration of the valor of these strangers, that he entreated them to remain in his country; offering them lands and the most honorable employments; but not being able to prevail with them to stay in Italy, or even accept of his presents, at their departure he sent home ambassadors with them to Normandy, in vessels loaded with exquisite fruits, rich furniture for horses, &c., to allure others of the valiant Normans to Italy. This encouraged a Norman chief, named Osmond Drengot, to settle in Italy, about 1015. In the mean time the city of Bari had revolted from the Greeks, and chosen one Mello for their leader, whose wife and children happened soon after to fall into the hands of their enemies, and were sent prisoners to Constantinople. No sooner, therefore, did Mello hear of the arrival of these adventurers, than he engaged them to assist him; and, having drawn together a considerable army, defeated the Greeks with great slaughter, and obliged them to abandon their camp. In this engagement the Normans distinguished themselves, and the news of their success soon brought from Normandy an innumerable multitude of their countrymen, with their wives and children. By this reinforcement, Mello gained two other victories, took many towns, and obliged the Greeks to abandon a large territory; but, in 1019, they were utterly defeated, and every thing recovered by the Greeks. The Greek general Bajanus, continued to go on with such surprising success, that he almost entirely re-established the affairs

of his countrymen in Italy, and made a distinct province of the western part of Puglia, which he called Capitanata. His great progress at last alarmed the emperor of Germany; and, in 1027, Pandulphus, prince of Capua, made himself master of Naples; but was obliged to leave it in 1030, by the Normans, who built the city of Aversa, which was erected into a county. In consequence of this good fortune, great numbers of Norman adventurers migrated into Italy; among whom were William, Drogo, and Umberto, three sons of Tancred, duke of Hauteville; from whose posterity those princes were descended, who conquered the island of Sicily from the Saracens, and thus completed the present kingdom of Naples.

In 1040 the Greek emperor Michael Paleologus, to secure the affection of his fickle subjects, undertook the conquest of Italy from the Saracens, and for that purpose sent a general named Michael Maniacus into Sicily. This commander, hearing of the great reputation of the Normans, sent to Guimarius, prince of Salerno, intreating him to grant him some of those warriors. The prince, to encourage the Normans to engage in the expedition, promised them some additional rewards besides the emperor's pay. William, Drogo, and Umberto, accordingly marched from Salerno with 300 of their countrymen; and, passing over into Sicily, distinguished themselves remarkably in the conquest of that island. Maniacus acknowledged that the recovery of Messina was chiefly owing to their valor; and William, with his Normans, gained a complete victory over the Saracens before Syracuse, where he killed the governor in single combat. Maniacus made himself master of Syracuse, and almost entirely reduced the whole island; but, being accused of treason, was next year carried prisoner to Constantinople. His successor Doceanus quickly lost the whole island except Messina, and treated his Norman auxiliaries with the utmost contempt. He would not allow them any share of the booty; and even caused one Ardoin, a noble Lombard, an associate and interpreter of the Normans, to be whipped round the camp, because he had refused to part with the horse of a Saracen whom he had slain in single combat. The consequences of this tyrannical behaviour were fatal to the Greeks. Ardoin soon after obtained leave to return to Italy, under pretence of a vow, and all the Normans embarked at night along with him; but, instead of going to Rome, Ardoin went immediately to Aversa, where he persuaded count Rainulphus, sovereign of that province, to join with him in attacking the Greek provinces in Italy. Rainulphus approved of the scheme, and raised 300 soldiers, whom he sent under twelve officers, to join the other Normans under the sons of Tancred; and made an agreement with Ardoin that the conquests should be equally divided among the chief leaders. Their first enterprise was the reduction of Melfis, one of the strongest cities in Puglia, which surrendered; and they increased its fortifications so much, that it became impregnable. Soon after this they took Venosa, Ascoli, and Lavello, with little opposition. Doceanus, alarmed at the rapidity of their conquests, im-

mediately left Sicily, and marched with his army into Puglia, where he attacked the invaders near the river Olivio; but, after a fierce engagement, he was obliged to retire with considerable loss. The Greeks were soon after defeated a second time at Cannæ; and in a third engagement, near Ofanto, the army of Doceanus was entirely routed, and himself obliged to fly to Bari. On this he was ordered to return to his command in Sicily, and another general was sent with an army into Puglia; but he had no better success, for his army was defeated in an engagement with the Normans, and himself taken prisoner. Atenulphus, brother to one of the princes of Benevento, on whom the Normans had conferred the chief command, set at liberty the captive general without consulting them, on receiving from him a considerable sum of money. With this the Normans were so much displeased that they deprived Atenulphus of his command, and bestowed it on Argyrus, son to the late Mello, who had escaped from Constantinople, and now assumed the title of duke and prince of Italy. Before this also, Maniacus had returned to Italy; and, to strike terror into the revolted cities, had executed a number of people of all ages and sexes with great inhumanity. Soon after this he openly rebelled against the Greek emperor Constantine XI., and prevailed upon his own army to proclaim him emperor, beginning hostilities immediately against the Greek cities. But Argyrus took Giovenazzo, and besieged Trani, and soon after besieged Maniacus himself in Tarento, who, being afraid of falling into the hands of the Normans, fled to Otranto, and thence to Bulgaria, where, being defeated by one of the emperor's generals, he was taken prisoner and beheaded. The Normans, having now conquered the greatest part of Puglia, proceeded to make a division of their conquest, in which, after each commander had got his share, the city of Melfis was left common to all, and appropriated as a place for assembling to consult about the most important affairs of the nation. Argyrus alone was neglected in this division; but he, having gained the favor of the emperor by expelling Maniacus from Italy, was by him created duke of Bari, on purpose to check the power of the Normans, with the title of prince and duke of Puglia. The Normans, however, were too powerful, and behaved with great insolence to the neighbouring princes; but as they could not be expelled by force, and were confirmed in their conquests by Henry II., emperor of Germany in 1047, the Greek emperor attempted to get rid of them, by sending Argyrus with large sums of money to bribe them to enter into his service against the Persians. But they replied, that they were resolved not to leave Italy unless they were expelled; upon which Argyrus bribed the Puglians to assassinate these invaders. This brought on a massacre, in which greater numbers of Normans perished than had fallen in all the late wars. Argyrus attempted to take advantage of the confusion produced by it, but was defeated; after which he had recourse to pope Leo, beseeching him to deliver Italy from these cruel tyrants; but the pope himself was defeated and taken prisoner; and, in conse-

quence of the respect showed him by the Normans, granted them all the conquests they had made or should make in Calabria and Sicily.

Soon after this the Norman power became extremely formidable; the famous Robert Guiscard ascended the throne in 1056. He made great progress in the conquest of Calabria, and reduced most of the cities which held for the Greeks in these parts. About the same time the counts of Capua were expelled from their territory; and the abbot Desiderius mentions his having seen the children of Landulphus V., the last count, begging. The pope, alarmed by these conquests, excommunicated the Normans in a body, pretending that they had seized some of the territories belonging to the church; but, by the submission of Robert, he not only was persuaded to take off the sentence of excommunication, but to invest him with the provinces of Apulia, Calabria, and Sicily. After this he continued the war against the Greeks with great success. In 1071, in conjunction with his brother Roger, he conquered Sicily, and gave the investiture of the island to him, with the title of count, reserving to himself only the half of Palermo, Messina, and the valley of Demona. The like success attended his arms against Salerno in 1074; and in 1080 he received a second time the investiture of all his dominions. In 1081 he undertook an expedition against the Greeks; and, though the emperor was assisted by a Venetian fleet, Robert made himself master of Corfu, reduced Durazzo, and great part of Romania; insomuch that by the success of his arms, and his near approach to Constantinople, he struck a universal terror among the Greeks. But, while Robert was thus extending his conquests, he was alarmed by the news of a formidable rebellion in Italy, and that the emperor Henry had taken Rome, and shut up the pope in the castle of St. Angelo. Robert therefore, leaving the command of the army to his son Boemund, returned to Italy, where he dispersed the rebels, and released the pope, while his son gained a considerable victory over the Greeks. After this Robert made great preparations for another expedition into Greece, to second his son Boemund. Alexius Comnenus, who was declared emperor by the Greek army, being assisted by the Venetian fleet, endeavoured to oppose his passage, but was defeated, with the loss of many galleys. But a final stop was now put to his enterprises by his death, which happened in 1085. Though the power of the Normans was thus thoroughly established in Italy and Sicily, and though the prince of Benevento was in 1130 invested by the pope with the title of king of Sicily; yet, in consequence of the dissensions among themselves, they were obliged to submit to the emperor in 1195. By him the Sicilians were treated with so great cruelty, that the empress Constantia was induced to conspire against him in 1197, took him prisoner, and released him only on condition of his sending off his army immediately for the Holy Land. This was complied with; but the emperor did not long survive the reconciliation, being poisoned, as was supposed, by order of the empress. In 1254 the pope claimed the kingdom as a fief

devoid on the church, in consequence of a sentence of deposition pronounced against king Frederic at the council of Lyons; and in 1263 the kingdom was, in consequence of this right, conferred on Charles count of Anjou. After much contention and bloodshed, the French thus became masters of Sicily and Naples. Their government was insupportably tyrannical; and at the same time the haughtiness of their king so provoked the pope, that he resolved to humble him. Charles had resolved on an expedition against Constantinople, and for this purpose had fitted out a fleet of 100 galleys, thirty large ships, 200 transports, besides many other smaller vessels, on board of which he intended to embark 10,000 horse, and a numerous army of foot. This formidable armament greatly alarmed the emperor Michael Paleologus, for which reason he entered into a negotiation with John Di Procida, a noble Salernitan, lord of the isle of Procida, in the bay of Naples, who had formed a scheme for a general revolt in the island of Sicily. John, though a nobleman, was also a physician, and had been counsellor to two former princes, and even to king Charles himself; but being stripped of his estate by the king under pretence of treason, and his wife being debauched by the French, he retired to Constantia, queen of Arragon, where he was created a baron of the kingdom of Valencia by her husband king Peter, and lord of Luxen, Benizzano, and Palma. As he was greatly exasperated against the French, he employed many spies both in Puglia and Sicily; and, being informed that the Sicilians were totally disaffected to the French, he came to the island in disguise, and concerted a plan with the most powerful of the malcontents for a revolution in favor of Constantia, though she derived her right only as being the daughter of a former usurper named Manfred. Procida then set out for Constantinople, where, in some private conferences with the emperor, he persuaded him, that the most probable means of defeating Charles's scheme was by assisting the Spaniards and Sicilian malcontents. Paleologus accordingly granted him a large sum of money, and on his departure sent one of his secretaries along with him, who, landing in Sicily, had a conference with the chief conspirators. John, having received letters from them, disguised himself in the habit of a Franciscan, and went to Suriano near Rome. As he knew the enmity which subsisted between the pope and king Charles, he disclosed his design to his holiness, who readily entered into his measures, wrote to Peter to hasten his armament, promising him the investiture of the island as soon as he had taken possession of it; and, by refusing the assistance he had promised to Charles, obliged him to delay his expedition. In the beginning of 1280 Procida returned to Arragon, and, by showing the letters from the pope and Sicilian barons, prevailed on Peter to embark in his design, by assuring him of the assistance of Paleologus. The king of Arragon accordingly prepared a formidable fleet under pretence of invading Africa, and received 20,000 ducats from Charles, to assist him in his preparations. But, while John went on thus success-

fully with his scheme, all his measures were in danger of being broke by the death of pope Nicholas. The new pope, Martin IV., was entirely in the interest of Charles, on whom, in 1281, he conferred the senatorial dignity of Rome. Procida, however, still resolved to prosecute his scheme; and, leaving Italy, had another conference with the conspirators in Sicily; after which he again went to Constantinople, and obtained from Paleologus 30,000 ounces of gold, with which he returned to Arragon. The death of Nicholas had damped the ardor of Peter; but, being urged by John, he again renewed his preparations; which alarmed the pope and the king of France: who advised Charles to guard against an invasion: but he neglected their advice, being wholly intent on his eastern expedition, and encouraged by a revolt which had happened in Greece. To facilitate his expedition, he prevailed on the pope to excommunicate the Greeks, on pretence that they had broken some of the articles of union concluded at the council of Lyons a few years before. Peter in the mean time continued his preparations with great diligence, intending to put to sea the following summer. Procida had returned to Palermo, to wait for a favorable opportunity of putting his design in execution, which was soon afforded him by the French. On Easter Monday, March 30th, 1282, the chief conspirators had assembled at Palermo; and, after dinner, both the Palermitans and French went in a grand procession to the church of Monreal, about three miles without the city. While they were sporting in the fields, a bride happened to pass by with her train, who being observed by one Drochet, a Frenchman, he ran to her, and began to use her rudely, under pretence of searching for arms. A young Sicilian, exasperated at this affront, stabbed him with his own sword; and, a tumult ensuing, 200 French were immediately murdered. The enraged populace then ran to the city, crying out, 'Let the French die;' and, without distinction of age or sex, slaughtered all of that nation they could find, even such as had fled to the churches. The conspirators then left Palermo, and excited the inhabitants to murder the French all over the island, excepting in Messina, which city at first refused to be concerned in the revolt. But, being invited by the Palermitans to throw off the French yoke, a few weeks after, the citizens in a tumultuous manner destroyed some of the French: and pulling down the arms of king Charles, and erecting those of the city, chose one Baldwin for their governor, who saved the remaining French from the fury of the populace, and allowed them to transport themselves, with their wives and children, to Italy. The number murdered on this occasion is said to have been 8000.

Immediately after this massacre, the Sicilians offered their allegiance to Peter, king of Arragon; who accepted of the invitation, and landed with his forces at Trapani. Thence he went to Palermo, where he was crowned king of Sicily with great solemnity, and Charles left the island with precipitation. The day after he landed his army in Italy, the Arragonian fleet arrived, took twenty-nine of his galleys, and the next day

burnt eighty transports in presence of his army. Soon after this Charles sent an embassy to Peter, accusing him of perfidy, in invading his dominions in time of peace; and, according to some, challenged him at the same time to decide the matter by single combat: but Peter determined to employ more effectual means in support of his pretensions; and therefore pushed on his operations most vigorously, while his adversary trifled away his time: and thus he at last became master of the kingdom; which, however, he did not long enjoy, dying about the end of 1285. By his will, Peter left Arragon to his eldest son Alphonsus, and Sicily to James his other son, who was also to succeed to the kingdom of Arragon in case Alphonsus should die without male issue. Accordingly, James was solemnly crowned at Palermo, the 2d of February, 1286. In 1295, however, he deserted them, and tamely resigned up his right to Charles, son to him above mentioned. On his resignation the Sicilians conferred the crown upon his brother Frederick: after which the war continued with great violence till 1303, when a peace was concluded, and the kingdoms of Naples and Sicily formally disjoined; Frederick being allowed to keep the latter, under the name of Trinacria; and Charles being confirmed in the possession of the former, which he quietly enjoyed till his death in 1309. Naples continued to be governed by its own kings till the beginning of the sixteenth century, when the kings of France and Spain contended for the sovereignty of it. Frederick, then king of Naples, resigned the sovereignty to Louis XII., on being created duke of Anjou, and receiving an annual pension of 30,000 ducats. But, in 1504, the French were defeated by the Spaniards, and obliged to evacuate the kingdom; and Louis, in 1505, renounced all pretensions to the crown, which has since remained almost constantly in the hands of the Spaniards. The government of the Spaniards proved no less oppressive to the Neapolitans than that of others had been. The kings of Spain set no bounds to their exactions, and of consequence the people were loaded with numerous and heavy taxes; the most indispensable necessities of life not being exempted. In 1647 a new tax was laid on fruit; which the people looked upon as the most grievous oppression, the chief part of their subsistence, during the summer months, being fruit; which in Naples is very plentiful and delicious. The edict for collecting the new duty was no sooner published, than the people began to murmur in a tumultuous manner: and, when the viceroy came abroad, they surrounded his coach, bawling out to have their grievances redressed. They were encouraged in their sedition by the news that the citizens of Palermo had revolted on account of the imposition of new duties. The viceroy, therefore, apprehensive of greater disorders, began to think of taking off the tax; but, those who farmed the tax having bribed some of his favorites, he was persuaded not to abolish it. The indignation of the people was now greatly increased. The farmers of the revenue, and all those concerned in raising the taxes, had incurred the hatred and detestation of the people, particularly of Thomas Aniello, com-

monly called Massaniello, a native of Amalsi, a fisherman, whose wife, having been discovered in smuggling a small quantity of meal, was imprisoned, and condemned to pay a fine of 100 ducats. Massaniello, a few years before, had come to Naples from Amalsi, where his father had been a fisherman. At this time he was about twenty-four years of age, and the father of four children. He was of a middling stature, and an agreeable aspect; was distinguished for his boldness, activity, and integrity; and had great influence with his companions, by whom he was beloved and esteemed. As he was obliged even to sell his furniture to pay the heavy fine, he had conceived an implacable hatred against the farmers of the taxes, and was also moved with compassion for the miserable state of the city and kingdom. He, therefore, formed a design, with some of his companions, to raise a tumult in the market-place on the festival day of the Carmelites, usually celebrated the middle of July, when between 500 and 600 youths entertain the people by a mock fight; one half of them, in the character of Turks, defending a wooden castle, which is attacked and stormed by the other half in the character of Christians. Massaniello being appointed captain of one of these parties, and one Pione, who was privy to his design, commanding the other, for several weeks before the festival they were very diligent in reviewing and training their followers, who were armed with sticks and reeds: but an unforeseen accident tempted them to begin their enterprise without waiting for the festival. On the 7th of July a dispute happening in the market place betwixt the tax-gatherers and some gardeners of Pozzuolo, who had brought some figs into the city, whether the buyer or seller should pay the duty; after the tumult had continued several hours, Massaniello, who was present with his company, excited the mob to pillage the office built in the market for receiving the duty, and to drive away the officers with stones. The elect of the people, who, by deciding against the gardeners, had increased the tumult, ran to the palace and informed the viceroy, who imprudently neglected all means of putting a stop to the commotion. Massaniello, in the mean time, being joined by great numbers of people, ordered his young troops to set fire to all the offices for the taxes through the city; which command being executed with despatch, he then conducted them directly to the palace, where the viceroy, instead of ordering his Spanish and German guards to disperse them, encouraged their insolence by timidly granting their demands. As they rushed into the palace in a furious manner, he escaped by a private door, and endeavoured to save himself in Castel del Ovo; but, being overtaken by the rioters in the streets, he was trampled upon by them, and pulled by the hair and whiskers. However, by throwing some handfuls of gold among them, he again escaped, and took sanctuary in a convent of Minims, where, being joined by the archbishop of Naples, cardinal Filomarini, and several nobles, by their advice he signed a billet, by which he abolished all taxes upon provisions. He likewise desired the cardinal to offer Massaniello a pension of

2400 crowns, who generously rejected the bribe; and declared, that, if the viceroy would keep his word, he would find them obedient subjects. It was now expected that the tumult would cease; but Massaniello, upon his return to the market-place, being joined by several malcontents, among whom were Genuino and one Peronne, who had formerly been a captain of the Sbirri, he was advised by them to order the houses of those concerned in raising the tax to be burned: which were accordingly in a few days reduced to ashes, with all their rich furniture. Massaniello being now master of the city, and being joined by great numbers of people of desperate fortunes, he required the viceroy, who had retired to the Castel Nuovo, to abolish all the taxes, and to deliver up the writ of exemption granted by Charles V. This new demand greatly embarrassed the viceroy; but, to appease the people, he drew up a false deed in letters of gold, and sent it to them by their favorite, the duke of Matalone, who had before been in confinement. The fraud, however, being discovered, the duke was pulled from his horse and maltreated by the mob, and at length committed prisoner to Peronne. This accident, to the great joy of the viceroy, enraged the people against the nobility, several of whom they killed, burnt the houses of others, and threatened to extirpate them all. Massaniello, in the mean time, tattered and half naked, commanded his followers, who were now well armed, and reckoned about 100,000 men, with a most absolute sway. He ate and slept little, gave his orders with great precision and judgment, appeared full of moderation, without ambition or interested views. But the duke of Matalone having procured his liberty by bribing Peronne, the viceroy imitated his example, and secretly corrupted Genuino to betray his chief. A conspiracy was accordingly formed against Massaniello by Matalone and Peronne; the duke, who was equally exasperated against the viceroy, proposing, that after his death his brother Joseph should head the rebels. Massaniello, in the mean time, by means of the cardinal archbishop, was negotiating a general peace and accommodation; but, while both parties were assembling in the convent of the Carmelites, the handitti hired by Matalone made an unsuccessful attempt upon Massaniello's life. His followers immediately killed 150 of them. Peronne and Joseph, being discovered to be concerned in the conspiracy, were likewise put to death, and the duke with great difficulty escaped. Massaniello by this conspiracy was rendered more suspicious and severe. He began to abuse his power by putting several persons to death upon slight pretences; and, to force the viceroy to an accommodation, he cut off all communication with the castles, which were not supplied with provision and ammunition. The viceroy, likewise, being afraid lest the French should take advantage of the commotion, earnestly desired to agree to a treaty; which was accordingly concluded on the 5th day of the insurrection, by the mediation of the archbishop. By the treaty it was stipulated, that all duties imposed since the time of Charles V. should be abolished; that the writ of exemp-

tion granted by that emperor should be delivered to the people; that for the future no new taxes should be imposed; that the vote of the elect of the people should be equal to the votes of the nobility; that an act of oblivion should be granted for all that was past; and that the people should continue in arms under Massaniello till the ratification of the treaty by the king. By this treaty, no fewer than 10,000 persons, who fattened upon the blood of the public, were ruined. The people, when it was solemnly published, manifested an extreme joy, believing they had now recovered all their ancient rights and privileges. Massaniello, at the desire of the viceroy, went to the palace to visit him, accompanied by the archbishop, who was obliged to threaten him with excommunication, before he would consent to lay aside his rags and assume a magnificent dress. He was received by the duke with the greatest demonstrations of respect, while the duchess entertained his wife, and presented her with a robe of cloth of silver, and some jewels. The viceroy, to preserve some shadow of authority, appointed him captain-general; and at his departure made him a present of a golden chain of great value, which with great difficulty he was prevailed upon to accept; but yielded at length to the intreaties of the cardinal. Next day, in consequence of the commission granted him by the viceroy, he began to exercise all the functions of sovereign authority: and having caused a scaffold to be erected in one of the streets, and several gibbets, he judged all crimes, whether civil or military, in the last resort; and ordered the guilty to be immediately put to death, which was the punishment he assigned to all offences. Though he neglected all forms of law, and even frequently judged by physiognomy, yet he is said not to have overlooked any criminal, or punished any innocent person. His grandeur and prosperity was of very short continuance; for, his mind becoming distracted and delirious for two or three days, he committed many extravagant actions; and, on the 18th of July, he was assassinated with the consent of the viceroy.

The tumult did not end with the death of Massaniello: on the contrary, the people now expelled the Spaniards from most of the cities throughout the kingdom; and, this general insurrection being the subject of discourse at Rome, the duke of Guise, who happened then to be at the pope's court, took the opportunity, at the instigation of his holiness, to offer his service to the Neapolitans against the Spaniards. The duke was prompted by his ambition to engage in this enterprise, especially as he himself had some distant pretensions to the crown. The Spaniards in the mean time made a vigorous attack on the city; but were repulsed by the people, who now formally renounced their allegiance to them. In a short time however, their city being surprised by the new viceroy, the count of Oniate, and the duke of Guise himself taken prisoner, the people returned to their allegiance; and thus all the attempts of the French on Naples were frustrated. Since that time the Spaniards continued in peaceable possession of the kingdom till 1707, when it was taken from

nem by prince Eugene. It was formally ceded to the emperor by the treaty of Rastadt in 1713; but was recovered by the Spaniards in 1734, and in July 1735 Charles, the king of Spain's eldest son by his second queen, was made king of Naples and Sicily. See SICILY, and SPAIN.

Charles III., by the death of his brother Ferdinand VI., on the 10th August 1759, became king of Spain; and was succeeded in the throne of Naples by his third son, Ferdinand IV., the present sovereign. But, in January 1799, he and the royal family were obliged to fly from Naples, and take refuge in Sicily, upon the approach of the French republicans; who, under generals Macdonald and Championet, took the city of Naples on the 24th January, over-running the whole country, and proclaimed the kingdom a republic. In February it was divided into eleven departments, and the government new-modelled on the French plan; but within a few weeks, admiral Nelson appearing upon the coast, the French capitulated, the democratic system was overturned, the old monarchy and government restored, and the king welcomed back to his throne. But the most dreadful cruelties were committed, particularly in Calabria, upon those unfortunate persons who had favored the French during the short-lived revolution.

The kingdom of Naples, was again, however, placed under French dominion by Buonaparte, and conferred on his brother Joseph as king: the legitimate king having again fled to Sicily, where he was long supported by a British force under Sir John Stewart. In the spring of 1808 Buonaparte removed his brother Joseph to Spain, and raised Joachim (Murat) Napoleon to the tributary and usurped throne of Naples, where he remained without having been able to annex Sicily to his usurpation, until, by a well-conducted conspiracy, he was in his turn hurled from the throne in 1815. Early in May of that year the capital was surrendered to a British squadron; and, on the 17th of June, Ferdinand IV. re-entered it amid loud and apparently hearty acclamations.

It is but fair to add that the reign of Murat in Naples effected considerable changes for the better. All branches of the public administration were invigorated and improved; society in the upper ranks was reconstructed upon the Parisian scale; French literature was imported; the French code superseded the cumbrous and vicious jurisprudence of ancient Naples; and the nation, notwithstanding its subordination to the Imperial politics, and its participation in Napoleon's wars, was fast emerging from barbarism, and rising to take its place amidst European nations, when the fall of Napoleon again threw it back upon the institutes of the Anjous and the Arragons. The roads and public buildings retain indelible marks of the improvements of 'the usurpation.'

The last revolutionary movements (of 1820) deserve some notice. It was in the month of July that this revolt, headed by general Pepe, broke out amongst the troops. The cry was for a constitution; and, many of them happening to recollect that Murat had promised them a constitution just before his departure, Murat's pro-

mised constitution was immediately proclaimed. Unfortunately this constitution was not to be found in any desk, or hole, or corner. In this exigency another cry was set up for another constitution. To appease these tumultuary demands for constitutions the king promised another in eight days; not a very unreasonable delay for so momentous a measure, but much too long for Neapolitan impatience. In the mean while some persons seem suddenly to have recollected that the Spaniards had given themselves a constitution, and a cry was immediately raised for the constitution of the Cortes. Of this constitution there was not, it seems, a copy in Naples. Nobody knew exactly what it was. Yet to this they conceived so miraculous an attachment, that during the sitting of their parliament, which was expressly summoned to modify and correct it, a large majority of members were indisposed to allow any alteration of it, and came to a decision that no amendment should be adopted but by a majority of two-thirds.

About this time was exhibited in Sicily an episode to the Neapolitan revolution. On the 15th of July, and the two following days, Palermo was the theatre of a violent and sanguinary insurrection. No sooner had the Palermitans heard what had been transacted at Naples, and that a parliament had been convoked there, than they determined to have a parliament and constitution of their own. Of their taste for liberty, as well as of their fitness for it, they gave an immediate specimen, by letting loose from prison nearly 1000 atrocious malefactors. They assailed the houses of the Neapolitan officers, and threw the Neapolitan soldiers into dungeons. It was necessary, therefore, to send a large force from Naples to put down the rebellion; but, when that force approached Palermo, a scene of slaughter and cruelty ensued in that unhappy city which cannot be adequately described. A militia, chiefly composed of criminals liberated from jail, were not to be expected to be very moderate in shedding blood, or plundering property. All who refused to join them were shamefully murdered, then cut into pieces, and their quivering limbs exposed on pikes and bayonets. In the mean while those who led the Neapolitan troops permitted Palermo to surrender on terms of capitulation.

While these things were going on in Sicily, at Naples they continued to amuse themselves with constitutions. They changed the nomenclature of the provinces, and, after the manner of the French school, adopted the names and divisions of antiquity. The Terra di Lavoro was named Campania; the three Abruzzi changed into Pletuteria, Marsia, and Frentania; the island and province of Tremiti into Daunia; Otranto into Salentum; Calabria into Lucania, &c., &c. They adopted also the trial by jury. Of this institution far be it from us to deem irreverently; but wise institutions are not capable of being transplanted at will: and every civil blessing will not flourish in every soil. The almost entire inaptitude of the trial by jury to any other community than that in which it is indigenous, may be a discouraging, but it is almost an undeniable truth.

In the mean time the allied powers took into their deliberation (we shall presently say a few words concerning their competence to entertain the question) the changes which popular force had thus worked in the political system of the country; and the king of the two Sicilies was, as is well known, invited to their congress. The residue of the revolutionary story is soon told. The Austrians crossed the Po on the 28th of January, and marched to Naples. The principal opposition to this march seems to have consisted in an empty vote of the representatives, never to make peace with an enemy whilst he occupied their territory. On the 28th Rieti was in the possession of the Austrians, and the Neapolitan army fell back upon Aquila. The Austrians appeared in sight; general Pepe was almost instantly deserted by his troops, and obliged to escape as well as he could. This dispersion was followed by that of the troops at Mignana, who fired on their officers, and then disbanded. The Austrians entered Naples on the morning of the 29th; and thus ended the revolution of Naples.

Our remarks upon this much agitated subject shall be short. Perhaps the soundest reasoning is that which keeps at an equal distance from the extreme proposition on either side, neither denying altogether the right of external interference in any instance of popular revolution, nor maintaining the right of interfering in all. In political cases there is an endless gradation of shades and colors. In that before us it is a question of fact. If, as the emperor of Austria asserted in his manifesto, the Neapolitan revolution was brought about by obscure fanatics and rebel soldiers, and unnaturally forced upon the people, instead of being the object of their legitimate choice; and if, as it further asserts, that revolution threatened by its contact the peace and independence of neighbouring states; then the law of vicinage was in full vigor, and it became not only an undeniable right, but a sacred duty, to take measures for repressing the mischief. As an Italian prince by birth, as well as by inheritance, whose dominions had been nearly dismembered by similar commotions acting in the north of Italy in avowed sympathy with that of Naples, and generated by the sect of Carbonari, the prolific parent of modern revolutions, the emperor of Austria could not have hesitated as to the course which prudence, and policy, and justice, alike suggested.

As to the Carbonari, of whom so much is said, and so little known, it would be visionary perhaps to magnify their projects into that grand simultaneous insurrection, of which their appearance in the south of Italy was to be the signal; though this has been maintained by many sagacious and well informed writers. We ourselves are of opinion that these apprehensions were not wholly destitute of foundation; and we are not sufficiently sceptical of the size and extent of the mischief to consider them merely as

Fears of the brave, and follies of the wise.

M. de Beauchamp, author of a History of the Revolution of Piedmont, considers the Carbonari as a branch of a 'gigantic anti-social conspiracy, of which Paris was the centre—the

dregs and fæces of the French Revolution still lurking, both in France and Italy.' He arraigns, we think unanswerably, the policy of the French government immediately after the restoration, which nursed, as it were, the dying embers of revolution, by heaping favors and condescensions on the remnant of the revolutionary faction. Thus cherished and protected, he adds, the grand democratic or Buonapartist sect extended their ramifications, under different names, to the Alps, the Pyrenees, and the Rhine, where the people, averse from a foreign yoke, and nurturing a secret but undefined hope of independence, lent a too willing ear to their delusions. Nor is there an absolute absence of evidence to show that the elements of this great combustion had been actually prepared at Paris, long before it burst forth with so feeble a flame in the southern extremities of Europe. But, though there may not be testimony sufficiently decisive to silence all doubt concerning the alleged extent of the conspiracy, it is certain that through the Neapolitan provinces, at the period of the late revolution, the Carbonari, a sect framed in imitation of the free-masons, and avowedly pursuing some plan of political innovation, comprised a considerable portion of the population. They do not, indeed, appear connected with the French party, of which M. de Beauchamp supposes them to have been a branch; for it is well known that they were equally hostile to the French governments of Joseph Buonaparte, and of Murat. Their existence, however, has for several years been a matter perfectly notorious; and, although they affected great secrecy, their proceedings were far from being concealed. But no sooner did the commotion of 1820 burst forth than they threw off the mask, and, intoxicated with the success of their projects, published their transactions, and even posted up their proclamations.

There is much real, and much affected, obscurity as to this sect, and their origin and purposes are in a great measure inexplicable. Yet it is abundantly manifest that these societies, whose principle is change, and whose compact is secrecy, are phenomena which baffle all reasonings derived from former experience, and essentially differ from every confederation which has heretofore exercised the vigilance, or excited the alarm, of governments. According to some writers, if they are not positively a numerical majority of the Neapolitan nation, they include amongst them that portion of it which has the most decisive influence in political action. In the two extremes of society, the high nobility and the lowest of the populace, there are no Carbonari. It is in the middling classes that their strength resides. Amongst these are the possidenti, or small landed proprietors; who, in an agricultural country like Naples, must have considerable weight in all projects to which they contribute their influence. But, in addition to these, the rapid changes of property, and transitions of government, during the last twenty-five years, had created a comparatively new class; 'the middle men,' as they are designated in Ireland,—men who, having been agents of the great landed estates, have, by their own in-

dustry, and knowledge of rural economy, so profited by the vicissitudes of the times, or the improvidence of their employers, as to have seated themselves in the actual possession of the domains which they once superintended. They bear the general designation of galantuomini, or gentlemen. It is from this class that official situations in the provinces are generally supplied; and these persons, almost to a man, were enlisted amongst the Carbonari. What efficient precaution, then, could the Neapolitan government have taken against a sect which contained a large portion of public functionaries? whole districts and provinces being, in fact, completely in the hands of persons, discharging indeed their duties with exactness, but carrying on, at the same time, their occult and mysterious projects. A majority of Carbonari in the Decurionato, or public assembly of the village, would ensure the election of syndics, of the gabellieri, or excisemen, and a variety of subordinate officers.

But in no class of the community had its principles taken deeper root than amongst the numerous bodies of provincial militia who are called legionari, civici, and militi: a class of men who had by no means an inconsiderable share in producing the revolution. As every individual of these troops must be assessed at least ten ducats to the land-tax, it is plain that, exclusively of the power of armed men, they must have great influence as proprietors of the soil. In Capitanata, one of the most extensive and populous of the Neapolitan provinces, 40,000 of these persons, each with forty cartridges in his pouch, and four ducats in his pocket, were for several months in complete readiness for action. It cannot, therefore, excite much surprise that the late revolution broke out. How its duration should have been so short, and that a more heroic and persevering resistance should not have been made to the Austrians, it is somewhat more difficult to explain.

We turn, with much greater satisfaction to the *literary history* of Naples. Here she is singularly and most creditably distinguished. Her claims were ably exhibited in the late British Review, to which we are indebted for the following sketch. The south of Italy is rich in historical learning. Its archives have, indeed, suffered considerably from invasions, and particularly from those of the Vandals; but the greater portion, by a rare felicity, has escaped the ravages of time and barbarism. The monasteries of La Trinita della Cava and Monte Cassino contain inestimable treasures of original documents pertaining to the history of the kingdom. Foreigners, and more particularly the inhabitants of northern Italy, are apt to smile with incredulity when they are told of the number of Neapolitan historians. Giannone's name is well known; but the sources from which he derived his materials are little known out of the kingdom. The names of Summonte, Costanzo, Pontano, Collenuccio, Carracioli, and Capecelatro, are only a few of them. Besides these, various writers have compiled chronicles, from the provincial archives, which would form a rich collection, independently of the MS. registers of private families. The *Libro del Duca di Montelore* is of the highest autho-

riety. It is a series of historical facts, from the time of Joan II., and exhibits most curious pictures of the manners and transactions of the two following reigns. Moreover, every province, and even the smallest provincial town, boasts of its history.

Of the remote antiquity of this country there are, of course, but scanty documents. The authors who flourished before the schools of Magna Græcia, and who could alone have guided us through the labyrinth, have not left so much as a name behind them. The Greek historians are too intent upon magnifying the importance of their own country, to deserve implicit faith when they treat of the people who were colonised and civilised by Greece. The loss of the early Roman historians is irreparable. Cato the censor had devoted one entire book of history to enquiries concerning the origin and peopling of the old towns of Italy. Corn. Nep. in vit. M. P. Cato. Diodorus the Sicilian, Dionysius, and Dio, who explored all the antiquities of Italy, have come down to us in a state deplorably imperfect; and neither Plutarch, Sallust, nor Livy, has supplied the loss. But it is certain that the Greek republics of Italy rose rapidly to prosperity and power. The Brutians, in the fifth century of Rome, made the Greeks tremble for their own safety. Luxury and corruption, however, kept an equal pace with their prosperity. Cuma, Crotona, Tarentum, Rhegium, fell quickly under the Roman domination. In the time of Polybius, the very name of Magna Græcia was disused.

Great names adorned those republics. Zaleucus (whose existence is questioned by Bentley), and Charondas, were the legislators of Locris and of Thurium; but the name of Pythagoras is still greater: he was born at Samos; and, having accidentally heard the philosopher Pherecydes discourse upon the immortality of the soul, he abjured the low occupation to which he had been educated, and became himself a philosopher. Having enlarged his mind by travel, and enriched it with all the learning of his time, he settled at Crotona, and established his celebrated sect, which he governed by a peculiar code of ethics. Exemplary abstemiousness, scrupulous ablutions, and daily exercise, were among its primary duties. At the close of every day, each disciple instituted a rigorous self-examination into the mode in which he had employed it. The silence enjoined upon this little community was probably an imitation of the reserve and mystery in which the priests of Egypt, in whose doctrines Pythagoras is supposed to have been initiated, locked up their knowledge. Whether the metempsychosis of this philosopher was borrowed from India, or was symbolical merely of the changes and reproductions which prevail through animal and vegetable life; whether it was a part of his religion to worship fire, as the purest emanation from the Supreme Being; or this also was a mere external symbol of some occult doctrine; are matters which must still remain in darkness. But the philosophy of Pythagoras was an era in the civilisation of man. The school which survived him continued the parent and nurse of that long succession of philosophers who flour-

rished in the south of Italy during the two following ages.

The eleatic sect arose soon after in this part of Italy. From this school emanated that false logic which, under the name of dialectics, confounded right and wrong,—the weapon which was afterwards so dexterously wielded by the sophists who overran Athens and the other cities of Greece. From a passage in one of the epistles of Seneca, it should seem that Zeno, who was the leader of this sect, had adopted the hypothesis respecting the non-existence of matter which is so fully developed by Berkeley. Zeno died the death of a patriot; having made an ineffectual effort to recover the liberties of the little republic (Elia or Velia), which were destroyed by the tyrant Nearchus: Leucippus was the successor of Zeno. He invented the celebrated system of atoms, which Democritus and Epicurus adopted after him. Is it not to this philosopher, also, that Descartes is indebted for his vortices, and the great mechanical axiom of the centrifugal qualities of rotatory bodies?

Of this period the poetry has perished; but the ancient historians have preserved a few fragments of it. Plato cites some of the verses of Parmenides; and Athenæus has preserved an entire poem (the Meleager) of Cleomenes of Rhegium. Tarentum produced three poets—Apollodorus, Leonidas, and Alexis, of whom Brunck, in his *Analecta*, has inserted some interesting remains. Alexis of Thurium was a celebrated writer of what is called the middle comedy. According to Suidas, he was the uncle of Menander, and wrote upwards of 200 dramas. Athenæus, Julius Pollux, and Aulus Gellius, have cited them occasionally; and several detached sentences of them are to be found in the valuable collection of Grotius.

In short, the south of Italy, in this remote period, might boast of a constellation of genius in philosophy and poetry. The cities of Magna Græcia had, for the most part, adopted a species of government which, though aristocratic, preserved enough of the popular form to nurture and encourage the competition of talent. But the glory of these little communities was destined to be extinguished in the overwhelming domination of Rome. They lost indeed their liberties; but the Romans preserved to them their municipal forms and native institutions. The twelve divisions into which Italy was distributed by Augustus were afterwards changed by Adrian, by whom the whole peninsula was again partitioned into seventeen provinces. Of these, Campania, Samnium, Apulia, and Lucania, comprise the territory which now constitutes the Neapolitan kingdom; an arrangement fatal to the privileges of the free cities. Campania was governed by consuls, Apulia and Lucania by censors, and Samnium by prefects.

These provinces gave birth to Livius Andronicus, Pacuvius, Nævius, Ennius, and Lucilius; but Rome was the theatre of their fame. The former of these may be considered the founder of the Roman stage. He supplanted the barbarous satires which were called Atellan, or Oscan, by something that approached the regular drama. Nævius, a native of Campania,

seems to have advanced the dramatic art still further. Cicero speaks in commendation of the purity of his style, and Virgil honored him by borrowing more than one of his verses. Macrobius points at the beautiful passage in the first book of the *Æneid*, where Venus complains to Jupiter of the storm that dispersed her beloved Trojans, as entirely taken from Nævius:—

— O qui res hominumque deumque
Æternis regis imperiis, et fulmine terras
Quid meus Æneas, &c.

If, indeed, Virgil borrowed this noble passage from Nævius, and made use also of entire lines from Ennius, as is also asserted by Macrobius, it is to be lamented that the verses, which that exquisite poet thus polished into brightness, are lost to us. We can discern neither the value of the obligation, nor the amount of the usury with which it was repaid. We have unfortunately too little of Ennius. But what remains of the *Amphora* makes us sigh, with the old woman in Plædrus, for what it once contained. It is worthy of remark, however, that the old bard has left us his own portrait, drawn by his own hand, in a fragment preserved by Aulus Gellius. *Noct. Attic.* l. 12, c. 4, Edit. Vari, 1675. If poets can praise themselves honestly, the passage evinces a rough undissembling spirit, congenial to that antique freedom of manners which permitted men to speak of themselves, as of others, without restraint.

Ingenio quoi nolla malum sententia suadet,
Ut faceret facinus, levis haud malus, doctus, fidelis
Suavis homo, facundus, suo contentus, beatus,
Sceitum, secunda loquens in tempore, commodus,
verbum
Paucum, multa tenens antiqua, sepolta, vetosta, &c.

And here it ought to be remarked that, in the time of Ennius, the Latin language, was less rude and unpolished than the specimens remaining of that author appear to indicate. It should seem that he affected, like our own Spenser, an antiquated diction to improve the interest of his composition, by removing it farther from ordinary life.

Arpinum, at present part of the province of Terra di Lavoro, produced the greatest orator and philosopher of the ancient world, Cicero; and one of its greatest historians, Sallust.—Velleius Paterculus, and Vitruvius, are also names which dignify southern Italy. The last was born at Formiæ. So carefully was he educated, and so diligently did he study, that he was considered as an epitome of all human learning. Julius Cæsar knew and loved him. He was munificently patronised by Augustus. His treatise on architecture is the only book upon that subject that has descended to us. It is obviously written with great inequality. The didactic parts of it are totally destitute of elegance or polish; but to each book there is a preface, written in a style of purity and elevation worthy of the Augustan age. Horace, notwithstanding his own doubts as to the precise spot of his nativity, belongs also to these provinces: and the unhappy Ovid was born in the Peligni, now the Abruzzo; the Italian translation of whose *Metamorphoses*, by

Anguillari, is perhaps the finest version of ancient poetry to be found in any language.

From the time of Ovid the reign of good taste and simplicity was no more. Words harmoniously balanced, antithesis, point, and an unsound floridness of diction, took their place. Statius was born at Naples, under Domitian, whom he flattered by the dedication of his two heroic poems. He has been so long the agreeable companion of some of our lighter hours, and so little justice has, in our opinion, been rendered him by critics and scholars, that we cannot forbear claiming for him a distinguished place amongst the writers of antiquity. Ambition was the sin by which he fell; as he could not reach the *Æneid*, it would have been happy for him if he had not attempted it. Yet the faults of the *Thebaid* are more than redeemed by the exquisite poetry of the *Silvæ*. Every piece of that miscellaneous collection attests the purity of his taste, and the gentleness of his character.

The subjoined lines addressed to his wife, inviting her to meet him at Naples, present so lovely a portraiture of that city, that we must be permitted to copy them. We wish that modern Naples corresponded to it alike in every feature.

Hic auspice condita Phœbo
Tecta, Dicharchei portus, et littora mundo
Hospita; et hic magnæ tractus imitantia Romæ,
Quæ Capys advectis implevit mœnia Teucris.
Nostra quoque et propriis tenuis, nec rara colonis
Parthenope; cui mite solum trans æquora vectæ
Ipse Dionæâ monstravit Apollo columbâ.
Has ego te sedes (nam nec mihi barbara Thrace,
Nec Libye natale solum) transferre laboro:
Quas et mollis hyems, et frigida temperat æstas:
Quas imbelles fretum torpentibus alluit undis.
Pax secunda locis, et desidiosa vitæ,
Et nunquam turbata quies, somnique peracti.
Nulla foro rabies, aut strictæ jurgia legis:
Mores jura viris: solum, et sine fascibus, æquum.

The night which so long overshadowed the human mind was now come: yet, in the deepest gloom of the middle ages, some faint glimmerings are to be perceived. The reign of Theodoric is rendered memorable by Boethius and Cassiodorus, who inspired their ferocious master, not indeed with a taste for letters, but with a disposition to protect them. Cassiodorus found a refuge from the distractions and violence of the times in a monastery, which he himself founded in his native province of Calabria. There he dedicated the residue of a blameless life to the instruction of his fraternity, in sacred and profane learning. While he taught them to feel the beauties of the ancient writers, he employed them also in transcribing their works; a pious labor to which we are indebted for many precious remains that would otherwise have perished in the general wreck of knowledge.

The iron sway of the Lombards was death to the whole mind of Italy. Yet, in these days of rapine and ignorance, the religious houses were uniformly hospitable to genius and letters. The Benedictines continued mindful of the precepts, and emulous of the example, of Cassiodorus; although their monastery at Monte Cassino had been wholly destroyed by the Lombards. Charlemagne availed himself of the zeal and talents

of the learned churchmen of his age, when he restored the empire of the West; and the eighth century boasts of writers who would not have disgraced the second. Muratori has collected some valuable historical monuments produced by the learned and industrious monks of Monte Cassino. The duchy of Benevento, which in the middle ages comprehended the greater part of the Neapolitan provinces, had still preserved its independence; and the princes who governed them were great protectors of learning. This tranquillity, however, was soon to have an end; and, after the dismemberment of Benevento, a period of tumultuous anarchy succeeded, which drew down upon that devoted country the Saracens of Sicily, and the arms both of the eastern and western empires. A handful of Norman adventurers took advantage of the feebleness and confusion incident to such a state of things, and laid the first foundations of a monarchy, which in later times powerfully influenced the destinies of Italy.

At Salerno, where Robert Guiscard had established his court, a celebrated school of medicine had already been instituted. In the eleventh century it arose to the summit of its reputation; and the Leonine verses, which registered the lucubrations of that period in the art of medicine, contain aphorisms which retain their authority in the present advanced state of the science. It has been strangely supposed that this work was dedicated to Charlemagne; but that prince had been dead nearly 300 years when this compilation first made its appearance. In fact, it was dedicated to a king of England, as it should seem from the first line of the poem. Tiraboschi supposes it to have been Robert, duke of Normandy, son of William the Conqueror, who had been entertained at Salerno, on his return from the first crusade, by Roger, then duke of Sicily.

The succeeding age was still more illustrated by the study and advancement of jurisprudence. We cannot enter into the much agitated question of the discovery of the *Pandects* at Amalfi. From this accident, however, may be dated the most beneficial revolution in the science of law. The schools of Milan, Bologna, Padua, and Naples, produced, in rapid succession, the great jurists of the eleventh and twelfth centuries. Count Orloff has given an exact chronological nomenclature of the various historians who flourished at this period in the provinces of Naples. Monte Cassino had the honor of producing the greatest amongst them. In these learned retreats also flourished, not only the celebrated Albericus, the great theologian, who so ably defended his dogmas before two several councils to which he was cited by Gregory VII., but an other ecclesiastic of the same name, one of whose visions, lately discovered among the archives of that monastery, is supposed, on very weak grounds, to have been the exemplar from which Dante borrowed the idea of his *Divina Comedia*. But the south of Italy passed under the mild rule of the Suabian princes, and the lan of literature began to teem with a new produce. Frederic II. laid the foundations of a university at Naples, revived the medical

school of Salerno, and himself cultivated the learning which he protected. His court was frequented by men of talent. It was under his patronage that the harp of Italy preluded its first sounds, and the Sicilian Muses contested the laurel with the Troubadours of Provence.

Thomas Aquinas was educated at Naples. The writings of this theologian, which are still extant, if what no one reads can be said to be extant, fill eighteen large folio volumes; and the ordinary duration of man's life could hardly suffice for the study of them. Fashions pass away, and the study of the angelic doctor has ceased to be the business of the schools, or the occupation of the closet. Yet he was held in high reverence by the sect who adhered to the scholastic philosophy, and who were long known by the name of Thomists. Nor was this estimation unmerited; his great Abridgment of Theology bespeaks a gigantic genius. To estimate such a writer, indeed, without reference to the time in which he lived, would be gross injustice; but it is a vulgar error to suppose that he was the blind and servile adherent of Aristotle. In some respects he was his antagonist; for he attached himself to the Alexandrian school, and adopted the tenets of St. Augustin, Proclus, and the Arabian peripatetians. That he entangled himself in the formularies of the Stagyrte, or at least in those which the schools attributed to that philosopher, and that he should have occasionally lost himself in the obscure labyrinths of scholastic distinctions, was the fault, not of Aquinas, but of the age. Even now the sway of Aristotle in the schools is not wholly extinct. Let not Thomas Aquinas be contemned for submitting in the thirteenth century to a yoke from which the nineteenth does not seek to be absolutely free.

On the obscure question of the origin and formation of the Italian language we must be here allowed to touch. The use of a vulgar dialect, contradistinguished from the Latin, commenced sooner in France than in Italy, where the Latin not only continued to be the language of law and polity, but that of wit and gaiety. The Troubadours had, even as early as the twelfth century, amused, with their romances and fabliaux, princes at their courts, noblemen in their castles, and warriors on their crusades: but it was in the next age that the Italian idiom acquired shape and consistence. It leaped as it were full grown from its birth, and, outstripping the tardy developments of time, attained, in the hands of Dante, to that copiousness and harmony which successive centuries have rather impaired than improved. Ginguené attributes (*Histoire Littéraire de l'Italie*, tom. i. p. 78), we think erroneously, this rapid perfection to the Provençaux; and derivatively through them to the more distant sources of Arabian literature. But what similitudes of thought, or analogies of diction, can be traced between the grave and austere style of Dante, and the playful, and often unmeaning, levities of those amorous minstrels, Bernard de Ventadours, Peyrol, Peter Vidal, and the other professors of the science gaie? In fact, the gay and brilliant court of Provence expired in the beginning of the thirteenth

century, to the latter part of which Dante belongs. The obscure sonneteers and canzonieri, who preceded the Father of Tuscan song in point of time, might have been tintured with their style and manner; nor can it be denied that the songs of Provence, rapid as they may seem to our refined apprehensions, were the source whence the poetry of Europe, and particularly that of Spain, derived its habitual language. Dante, however, is of another order. To the speech which he reared to sudden perfection, not an approach was made before his time. We repose upon Muratori's hypothesis. The Italian language was neither borrowed from the Provençaux, nor was it coeval as a lingua volgare with the ancient Roman, that strange paradox of Leonard Aretin, which was afterwards adopted by Bembo. It is, in short, the Latin, staggering under the blows given it by successive invasions of barbarous conquerors, but never supplanted by their idioms, receiving from time to time their inflexions and terminations, and gradually declining into a jargon assuming the form of a distinct language. Such was the state in which it waited only for a creative genius, like that of Homer, to impart to it the beautiful and harmonious symmetries which it has since retained; and in this state Dante found and completed it. It is observable that each of these dialects, as it approaches the line of separation, partakes of the characteristics of the other, the Latin being full of Italian expressions, and the Italian abounding in Latinisms, which gradually wear away as we descend to Petrarch and Boccaccio. In truth, all the Italian dialects, as well as those of France and Spain, conspire to refute the common opinion respecting the influence of the Northern invasions upon the language of those countries by inoculating it with barbarous idioms.

Robert of Anjou was the friend and patron of learning in the fourteenth century. During his reign, poetry and the study of Greek were prevailing occupations at Naples. Barlaam, under whose tuition Petrarch made his slender proficiency in that language, was a native of Calabria. Leontius Pilatus also was his pupil. This eminent individual was invited by Boccaccio to Florence; and it was his example and his labors that made the cultivation of ancient letters general through Europe. Historical science indeed appears to have advanced but little at this period in the South of Italy; though Gravina's chronicle, which is inserted in Muratori's collection, is an exception. But, in the succeeding century, Italy had wholly shaken off the slumber into which, with the other nations of the West, she had so long sunk; and, under the house of Aragon, Naples became the seat of taste and literature. Antony Beccadilli, surnamed from the place of his birth Panormita, aided by Jovianus Pontanus, founded an academy in that city, which enrolled in its numbers the most accomplished scholars of the age. Amongst these was Sannazarius, no ignoble name in poesy and polite learning.

Sannazarius arrived at high excellence both in Latin and Italian poetry. A sort of conflict was at this time going on between those lan-

guages. That of Italy was by no means in general use among the learned; and cardinal Bembo attempted, even at a later period, to dissuade Ariosto from adopting it. But Sannazarius wrote with equal grace and facility in either. If his poem *De Partu Virginis* earned him the approbation of the pope, and the distinction of being called the Christian Virgil, his *Arcadia* shows to great advantage the elegance, and softness, and melody, of the Italian diction. Sannazarius, as well as Statius, is the poet of Naples. He dwells with delight on its smiling landscapes and majestic scenery; and his religious poem closes with an exquisite painting of the spot to which his fancy clings with affection and rapture.

Hactenus, ô Superi, partus tentasse verendos
 Sit satis : optatam poscit me dulcis ad umbram
 Pausilypus, poscunt Neptunia litora et udi
 Tritones, Nereusque senex, Panopenque Ephyranque,
 Et Melite ; quæque in primis grata ministrat
 Otia, Musarumque cavas per saxa latebras,
 Mergellina ; novos fundunt ubi citria flores,
 Citria Medorum sacros referentia lucos ;
 Et mihi non solitâ necit de fronde coronam.

In his eclogues and elegies, also, Pausilypus, the adjacent islands of Nicidea, Procida, and Ischia, are scenes in which he delights to revel. This enthusiasm is strictly Neapolitan. In Italian, the chef d'œuvre of Sannazarius is indisputably his *Arcadia*. It is a series of eclogues in verse, and the scene is laid in *Arcadia*. Each of them is prefaced by an exordium, in prose; an alteration which, being of regular recurrence, is too apt to fatigue. But, if the merit of human productions is measured by duration of esteem, the *Arcadia* stands high; for it has been a favorite with the Italians for more than 300 years. We pass by many other cultivators of poetry and letters in this celebrated academy.

But poetry and polite literature were not its only subjects of glory. Galateo (Antony of Ferrara) was the friend of Pontanus and Sannazarius, and he excelled equally in natural philosophy, medicine, geography, and elegant letters. Jerome Tagliava, a Calabrian, disputed with Copernicus the discovery of the earth's revolution round the sun. The science of history began also to make considerable advances under the Arragon princes. Laurentius Valla was munificently patronised at the court of Alphonso. Campano, Carracioli, Albino, Pomponius Lætus, adorned the academy towards the close of the fifteenth century. At this time archæology was the universal passion; and to such an excess was it carried, that every thing modern was in low esteem. Literary men even quarrelled with their own names, of modern, and therefore of barbarous sound, and assumed the classic and sonorous appellations of ancient history, such as Julius Pontanus, Callimachus Experiens, Pomponius Lætus, &c. The national literature suffered from this enthusiasm; and the Italian poetry and eloquence fell rapidly from the height to which Dante, and Petrarca, and Boccaccio, had carried them. The poetry of Notarino, and the homilies of Carracioli, are proofs of the declension of taste and simplicity.

A brighter and more ethereal day now dawned

upon Italy; and literature, as if impatient of its protracted infancy, advanced in the sixteenth century to sudden maturity and vigor. It seemed to have sunk into repose, exhausted by its efforts at the period of Dante and his contemporaries. It was, however, a renovating interval. The mind of man was undergoing a revolution the most interesting which history records;—a mighty change, which vibrated through Europe. Various causes contributed to it. The exhumation of the great models of antiquity from the sepulchre of ages was not the least. They furnished new standards of ideal beauty in the arts, which at once exercised emulation and awakened genius. The age of Leo brought back that of Augustus, and Rome was once more the centre from which taste and learning radiated through the world. Talent of every kind was encouraged by that liberal pontiff. The Medicis at Florence, and the princes of the house D'Este at Ferrara, were also patrons of literature. But Naples lingered in this march of intellect. Her Spanish viceroys persecuted merit with as much zeal as the Suabian, Anjou, and Arragonese princes had cherished and protected it. They endeavoured, ineffectually indeed, to plant the inquisition in the Neapolitan provinces, and shed the purest and best blood upon the scaffolds. The universities were deserted, and liberal and ingenious writers were punished by torture and exile.

When the tide of knowledge, however, has begun to flow, it is not easily checked. Private munificence supplied the place of public patronage. The marquis de Pescara, the marquis del Vasto, and the illustrious Colonna, were the Mæcenases of the age. It was a private individual, Ferrante, duke of Salerno, who protected the father of the celebrated Tasso. This ornament of the sixteenth century, to whom Italian poesy owes its last polish and highest refinement, was born at Sorrento. He is too well known to require a more specific notice; and, even if our space permitted us to enter into details concerning the great author of *Jerusalem Delivered*, the able summary and elegant criticism of Ginguené would render it superfluous. It may not be known, however, to all our readers, that Tasso was not only a poet, but a metaphysician and philosopher, and the author of several treatises, written with great precision, on morality and ethics. Nor is the full extent of his poetical labors familiar to all. His sonnets, of which there are an incredible number, have met with the same fate as those of Shakspeare. Like Shakspeare's, however, they are interesting portraits of the vicissitudes of his life.

Tansillo, a contemporary poet, exhibits neither the taste nor dignity of Tasso. His poems abound with the conceits and antithesis too frequent in the Neapolitan school. But the poem called the *Nurse*, which has been translated by Mr. Roscoe, a tender exhortation to mothers upon the nurture of their children, is exempt from these vices. The obscene poem called *Il Vendemiatore*, was expiated, before his death, by the Tears of St. Peter, a religious piece, which the French poet Malherbe plagiarised and deformed. For a catalogue of the jurists and

philosophers of the south of Italy, in the sixteenth century, we must refer our readers to the work of count Orloff.

The state of its literature at the beginning of the seventeenth century, was by no means auspicious. The Neapolitan kingdom was scourged at once by tyranny and famine. The ministers of Philip III. and Charles II., who governed it as viceroys, were intent only upon squeezing from that impoverished kingdom new supplies for their rapacious and needy masters. Commerce was fettered by exactions, industry disheartened, the arts and sciences discouraged. Rebellions were the natural fruit of this crooked policy. Thomas Campanella headed an insurrection in Calabria; and the famous Masaniello was, for some time, master of the kingdom. But the zeal of private individuals, animated by the example of their predecessors in the preceding century, effected much during these iron times. Manso, the friend of Milton, Tasso, and Marini, established a literary society, call the *Otiosi*. Other societies were framed, and learning was preserved from extinction. The Neapolitan jurists of this period are mentioned with respect in the excellent work of Francesco d'Andrea, *Ragionamento a suoi Nepoti*, himself the ornament of the bar, and called the *Cicero* of Naples. We need only mention Andrea (who died in 1698), Gravina, and his pupil Peter Metastasio. He was the first lawyer who called philosophy to the aid of jurisprudence. His interpretations of the Roman code, and of the fragments of the twelve tables, breathe a liberal and enlightened spirit; and his masterly and comprehensive mind brings together the whole history of human legislation, the progressive growth of natural and positive laws, and all the analogies and discordancies in the codes of nations. It is remarkable that two writers, diametrically opposite in genius and character, have been much indebted to Gravina. The world probably owes the great work of Montesquieu to his writings, and Rousseau borrowed from them his theory of the Social Contract. Himself a poet, he fostered and protected the expanding powers of Metastasio, left him an ample inheritance, and expired in his arms.

Julius Cæsar Vanini was equally celebrated for his talents and misfortunes. He was born at Otranto, and studied at Naples. He travelled over Europe, and gave offence in every country which he visited, by the boldness of his opinions, and the freedom of his discourse. Constant to no theory, at one time a fervent Catholic, at another a licentious Latitudinarian, his life was passed in a storm of disputation. The doctors of the Sorbonne burned his work *De Admirandis Naturæ Regiæ*. At Thoulouse he was accused of atheism; and condemned by the same parliament which afterwards passed sentence upon the unhappy Calas, to have his tongue cut out, and to be burned alive. This infamous judgment was executed on the 19th of February, 1619, and in the thirty-fourth year of his age.

But in no country has archæology been carried to a greater extent than in Naples. And what country, in spite of barbarous invasions, and the dreadful visitations of earthquakes and volcanoes, presents a wider field for antiquarian

research, or acounds more in those interesting remains which connect the ancient with the modern world? So prevalent was this science, that there is scarcely a province, a town, a church, or a monastery, which has not had its antiquary and its historian. Of these authors the number is too considerable for distinct specification. Amongst the writers of general history we have already mentioned Summonte. It is, however, in literary history that Naples abounds, even to affluence. Manso bequeathed to posterity the *Life of Tasso*, whom he had befriended and consoled in the last years of his existence. Francesco Andrea compiled the biographies of the celebrated authors of his day: Chioccarelli, those of Neapolitan authors, from the earliest times to 1646: Toppi, Nicodemi, and many others, illustrated the same department.

Poetry, however, and the sister art of rhetoric, degenerated into fustian and conceit. The austere and terrible graces of Dante; the harmonious, but vigorous versification of Petrarca, were succeeded by florid exaggeration, by tumid and gaudy imagery. Naples led the way in this departure from truth and nature. Tansillo, and even Tasso himself, not unfrequently committed these offences against taste; and their example, imitable only in its vices, engendered a tribe of poetasters, the founders of a new school, the school of Marini. But although Marini had the ambiguous honor of giving name to the sect, his genius was of a higher order. He was born at Naples, and nature had gifted him with an ardent imagination, perpetually excited, as he grew up, by the glories of a cloudless heaven, the varied beauties of the scenery, the rich magnificence of earth and ocean, with which he was surrounded. His first poetical attempts were remarkable for the brilliancy of their coloring. They were applauded, but in contradiction to the established decrees of good sense and correct taste. Simplicity and nature had already been exiled from poesy. A genius like that of Marini was alone sufficient to confirm the false direction which had been given it, and to sanction its vices. Literary honors were heaped upon him, and he was highly distinguished by the patronage of the great, both in Italy and France. His *Slaughter of the Innocents*, a poem, is the most finished of his numerous pieces. It was translated by Crashaw, and Pope has not disdained to borrow several passages from the translation. A countless tribe of imitators arose. It is the infelicity of imitation to catch only the faults of its original. They did not inherit a remnant of Marini's genius.

Occasionally he reminds us of the conceits of Cowley; but the resemblance is rare. One instance of such a resemblance is in our recollection, and we are tempted to quote it. In the *Testamento d'Amore* a lover receives from his mistress a letter written with her blood. This circumstance gives birth to endless conceits and extravagancies. He wishes to be converted into ashes, that, by being pulverised, he might dry up the lines traced by her hand:—

Così pur potess' io
Tra le mie fiamme incenerire ardendo,
Indi il cenere mio

Sparger, di polve in vece,
 Sù le tue belle, e sanguinose righe!
 Che non si puo con altra ricompensa
 Pagar dono di sangue
 Che con cambio di morte;

and concludes by calling her a pelican of love, who tears out her heart to administer life to others:—

Pelicano d'amore
 Che per dar vita altrui ti squarci il core.

There were few satirical poets in Italy during the seventeenth century. Salvator Rosa, the painter, was the most distinguished amongst them. He was a native of Naples; his satires have the bitterness and sternness of Juvenal. He writes also with the flowing eloquence of that poet; but he abuses his own fertility, and knows not how to stop. His great fault is saying too much.

In the drama, Porta arrived at great excellence; his genius was indeed universal. His tragedies of *Il Georgio*, and *l'Ulisse*, still maintain their reputation. But in the pastoral drama, a Neapolitan barber, Gian Battista Breggazono, shone nearly without a rival. The comedies of Porta also were deservedly admired in his day.

In a language so easily wedded to music, the opera is almost of indigenous growth; and, in the age on which we have been occupied, it rose to great perfection. Antonio Basso, Sorrentino, the author of *Ciro*, and others, whose names alone would extend our article to an unreasonable length, prepared the way for Zeno and Metastasio, from whose hands the Italian opera received its last touches.

The eighteenth century was the age of the severe sciences, rather than of poetry. Count Orloff has only strung together a barren nomenclature of the Neapolitan poets of this period; names too obscure for commemoration, and scarcely heard of beyond the limits of their own country. Nor is this silence a matter of condolence; the times are gone when cities were built by the sound of a lyre, or armies inflamed by the strains of a Tyrtæus. The spirit of imitation has so long subsisted in Italy, that we may reasonably despair of seeing again the sublimity of Dante, the perillings of Tasso, the opulence of Ariosto. On the other hand, sonnets, madrigals, elegies, canzoni, were every day starting into sickly existence, and then disappearing for ever.

Versus inopes rerum, nugæque canoræ.

It is in this age, nevertheless, that we contemplate the human faculties in their grander movements. A sounder logic, and more rational philosophy, were cultivated in Europe. The kingdom of Naples had been transferred to Austria, but the policy of the Spanish administration was still continued. Financial disorders, vexatious imposts, harassed and afflicted this devoted country. But, in spite of her arbitrary and oppressive governments, Naples could boast of many establishments friendly to science and letters.

In Giannone, jurisprudence found one of its greatest ornaments, who was born in the province of Capitanata, and studied at Naples. He began

his celebrated Civil History of Naples at an early period of his life. He was a zealous, not to say virulent, opponent of the usurpations of Rome; a circumstance to which he owes much of his reputation, and almost all his misfortunes. His work, on which he had bestowed twenty years of unremitting labor, appeared in 1723. But the liberality of its tenets soon earned it the honor of a place in the index expurgatorius of Rome. He was, moreover, excommunicated by the archiepiscopal court of Naples, and exiled from his country.

John Baptista Vico was a man of universal talent. Philosophy, politics, poetry, the belles lettres in general, he cultivated with equal diligence. Left in a destitute condition, his genius was nursed in solitude, and quickened by misfortune. All his writings breathe an air of originality: his imagination was ardent and active, and derived its aliment from vast and profound reading. Plato and Bacon were a species of household divinities to this indefatigable student. The celebrated work of the *Scienza Nuova* dintorno Alla Commune Natura delle Nazioni, is a lasting monument of philosophical powers of generalisation, which have been rarely equalled. Its obscurity is apparent, rather than real. It requires, indeed, to be read diligently, and even laboriously; and the author himself deprecates the judgment of those who may presume to criticise it on a slight and careless perusal.

The reign of Charles III. was the proudest political era that Naples had yet witnessed. The judicious measures of Tannuci, his minister, and the actual presence of the monarch himself, inspired life and activity into the state, and the Neapolitan people might for the first time be called a nation. The discipline of the university was restored, the magnificent building which it now occupies appropriated for its reception, and the Farnese library consecrated to its use. To this auspicious period belongs Antonio Genovesi, a proselyte from scholastic theology, the study to which he was originally destined, to the pursuits of a liberal and enlightened philosophy. We contemplate in him, perhaps, the most extraordinary man that ever arose in Italy. He was a disciple of Vico, whose doctrines he elucidated, by a commentary which completely cleared them of the perplexities in which his master had intentionally enveloped them. What Bacon was to Europe in general, Genovesi was to Italy. The spirit of philosophy, almost at his bidding, pervaded every science, and the principles of right reasoning diffused a steady light over the labors of succeeding students, for whom he had first opened a way disentangled from mysticism and error. He was in truth the founder of a school in philosophy, which had all that was great or eminent in Italy among its students. He combined the theories of Locke and Leibnitz, extracting from each that which was most consonant to the interests of man, and the improvement of his mind. If he wandered occasionally into the wilds of a boundless speculation, he was led astray by his unlimited confidence in the perfectibility of the human mind; an error that bespeaks generous and enlarged, though not accurate habits of thinking. Genovesi filled the

morat chair at the university. His talents attracted a numerous class; and truths, to which they had been heretofore indifferent or inattentive, came mended from his tongue. He was an unsuccessful candidate for the theological professorship; but a munificent individual, Bartolomeo Intieri, having founded a lectureship on political economy, upon the express condition that Genovesi should be the professor, it was in his lectures upon that branch of philosophy that he employed the vast resources of his genius, and displayed the great depth of his acquirements. But his greatest work is his Treatise upon Metaphysics: nor is it the least of its merits that it is divested of the learned nomenclature generally used in metaphysical dissertations, and completely adapted, by its elementary form, to popular use. Exhausted by his labors, this eminent man died in 1769, at the early age of fifty-five.

Emulous of his example, and disciplined by his precepts, several accomplished scholars followed in the same department. But our limits admonish us that, inasmuch as our mention of them would necessarily be confined to the barren enumeration of their names, it would be better to pass them by, and content ourselves with the selection only of the most prominent and conspicuous merit that belongs to the period under our examination. We conclude, therefore, our slight view of Neapolitan literature during the reign of Charles III., by remarking, that, with the exception of poetry and eloquence, every branch of human knowledge made rapid advances.

The long and eventful reign of his son Ferdinand IV. brings us to our own times, and involves the actual state of knowledge and letters in this part of Italy, which partook, in due proportion, of the general amelioration of Europe. In Naples, however, Genovesi left no equal. His plan of instruction was followed; his maxims paraphrased; but his disciples fell far short in knowledge and genius of their illustrious master. Naples, a city of lawyers, remained stationary in jurisprudence. The gothic and feudal edifice, with all its anomalies and errors, was still unshaken. Disorder, despotism, and anarchy, prevailed through that shapeless chaos, to which every dynasty and successive monarch had added something to augment its disproportions, and multiply its deformities. But, among the theoretic writers who labored to reform the civil and criminal codes, Francisco Mario Pagano holds a conspicuous place. The bar was then the great theatre of talent. Pagano, a disciple of Genovesi, soon left, however, that stormy occupation for the peaceful retirements of philosophy and study. In 1783 he published his *Saggi Politici*, a treatise which ranks him with the first writers upon public law; and in his smaller work, entitled *Considerazioni sul Processo Criminale*, he unfolded the true principles of penal jurisprudence, and urged those mitigations and amendments of retributive law, which had indeed been already recommended by Beccaria in a style more diffuse, but less forcible and impressive. Pagano, having accepted an office from the French usurpation of 1799, was sacrificed, on the restoration of Ferdinand

to the vindictive policy of the times, and publicly executed, with numerous other victims of that calamitous period.

Filangieri may be styled the Montesquieu of Naples. From his early youth he addicted himself to the diligent study of the mathematics, philosophy, the ancient languages, and the principles of morality and policy. His book upon the Science of Legislation appeared in 1780, when he was scarcely twenty-eight years of age. In glancing at this elaborate work, we are led to ask by what miracle a young man of high birth and splendid connexions, and of whose life no inconsiderable portion must have been passed in the pleasures of youth and the frivolous pursuits of the Neapolitan nobility, should have amassed such a store of solid information, and acquired so severe and profound a logic? Filangieri attempted, in this work, what was never attempted before in the same department—to introduce into moral and political, the exactness and precision of demonstrative science. His plan seems to be as unbounded as his genius. Montesquieu exhibits, as in a mirror, all that had hitherto been done by systems of law and codes of jurisprudence; but Filangieri was not content with mere historical induction. Reasoning from man's capacities and nature, he examines what still remains to be done, by civil institutions and political systems, for his moral amelioration and social happiness. Having laid down the general rules of legislative science, and unfolded the principles of law, civil, economical, and penal, he enters into clear and copious disquisitions concerning education, property, and the reciprocal rights and duties of the parental and filial relations. A mind free from the perturbations and mists of vulgar prejudice, an ardent philanthropy, a style admirably suited by its simple gravity to the subject, are the qualities displayed by this young philosopher, whose early death will be long registered in the affectionate regrets of his country.

In political economy the Neapolitans have made considerable advances from the time of Genovesi, who first raised it from the mere skill of the merchant or tradesman, to a rank amongst the liberal sciences. Galiani, so well known at Paris, in the circles of French literati, for the vivacity of his wit and the smartness of his repartee, was the author of various treatises in this branch of knowledge, in which he attacked, with great success, the principles of the French economists. On his return from the Neapolitan embassy at Paris, during his residence in which situation he had lived in familiar intercourse with the wits and belles-esprits of the court of Louis XV., and those of the first years of the reign of Louis XVI., he was placed in a financial office at Naples; and, amongst other projects, he had brought to maturity the restoration of the port of Baie, a work which was abandoned at his death. We might enlarge our catalogue; but we have executed, imperfectly indeed, but to the utmost practicable extent allowed us, our picture of the ancient and present state of Neapolitan literature.

NAPLES, an important city of the south of Italy, the capital of the foregoing kingdom, is

situated in a bay of this name. The villas, gardens, and districts of the city cover the shelving coasts around; the suburbs extending in a magnificent sweep from Portici to the promontory of Misenum, and filling a line of sixteen miles along the shore. In size, and number of inhabitants, Naples ranks as the third European capital, and from her situation and superb appearance has been justly termed the Queen of the Mediterranean. The bay presents an almost unrivalled number of picturesque and beautiful objects. On the west the delightful shores of Pozzuoli rise in a gentle swell from the surface of the water; on the east Vesuvius, with its cultivated sides and smoking summit, bounds the prospect; the centre contains the city, with its palaces, churches, and gardens, rising one above the other; while the sea view extends over the tranquil waters of the Mediterranean, and the verdant islands at the embouchure. Mr. Eustace safely lodged at the Albergo della gran Bretagna, on the sea shore close to the royal garden, thus describes this prospect.

'Few scenes surpass in beauty that which burst full upon me when I awoke next morning. In front and under my windows the bay of Naples spread its azure surface, smooth as glass, while a thousand boats glided in different directions over its shining bosom: on the right, the town extended along the semicircular shore, and Posilipo rose close behind it, with churches and villas, vineyards and pines scattered in confusion along its sides, and on its ridge, till, sloping as it advanced, the bold hill terminated in a craggy promontory. On the left, at the end of a walk that forms the quay and skirts the sea, the Castell dell' Novo, standing on an insulated rock, caught the eye for a moment; while beyond it, over a vast expanse of water, a rugged line of mountains stretched forward, and, softening its features as it projected, presented towns, villages, and convents, lodged amidst its forests and precipices; and at length terminated in the Cape of Minerva, now of Surrentum. Opposite, and full in view, rose the island of Caprea with its white cliffs and ridgy summit, placed as a barrier to check the tempest and protect the interior of the bay from its fury. This scene, illuminated by a sun that never shines so bright on the less favored regions beyond the Alps, is justly considered as the most splendid and beautiful exhibition which nature perhaps presents to the human eye, and cannot but excite in the spectator, when beheld for the first time, emotions of delight and admiration that border on enthusiasm.'

The circumference of the city is computed at nine miles. Many of the streets of the interior are narrow, and are rendered gloomy by the height of the houses: others are large and splendid. The Strada di Toledo, extending more than half the length of the city, has the Piazza di Mercato at the one end, and the royal palace a spacious and handsome structure, at the other. This street is one of the finest in Europe. Nothing can exceed its liveliness and bustle from day-break till after sunset. It is constantly crowded with carriages, passengers, soldiers, lazzaroni, beggars, stalls, &c., &c. The street of Monte Olivetto,

and that from the gate of Capua to St. Elmo, extend diagonally to the Strada di Toledo, and are also broad and handsome. Most of the streets in the Neapolitan capital are paved with broad flags of lava, without any particular foot-path. It has several spacious, but few handsome, squares; many of which are decorated with obelisks and fountains. The principal are the Largo de Castello, Largo de Palazzo, and Piazza di Mercato. The houses in general six or seven stories high, are flat roofed, and covered with a kind of stucco, of Pozzolana sand, which becomes very hard by exposure to the atmosphere. Most of them have balconies in front, and the roofs are often covered with flowers, shrubs, and small trees, planted in boxes. These balconies, and still more the booths and stalls with which the streets are covered, make them appear narrower than they really are.

Several of the churches have been erected on the sites of ancient temples, and the cathedral is supported by more than 100 columns of granite that belonged to the temple of Apollo, which it succeeded. In the chapel, under the choir, is deposited the body of St. Januarius, whose supposed blood, preserved in a crystal vase, is esteemed by the inhabitants the pride of the cathedral and city. The Santi Apostoli, erected on the ruins of a temple of Mercury, is considered the most ancient church in Naples, having been first built by the emperor Constantine, but subsequently rebuilt. The spacious church of St. Paul is said to occupy the site of a temple of Castor and Pollux: it is finely incrustured with marble. That of St. Filippo Neri is remarkable for the number of ancient pillars that support its triple row of aisles on both sides of the nave. The Spirito Santo is of a more pure and simple architecture: the one called del Parto, founded and endowed by Sannazzaro, the well known poet, contains his tomb, adorned with statues and bas-reliefs. There are altogether upwards of 300 churches. The mansions of the nobility have little pretensions to fine architecture; and, though many are on a grand scale, they are in general over loaded with ornaments. The interior of the royal palace is splendid; every apartment abounding with paintings and tapestry. The palace of Capo di Monte, another royal residence, is situated outside of the town, towards the north, on an eminence commanding a delightful prospect. It is still unfinished, but has a fine collection of paintings. The old palace of the kings of Naples is now occupied by courts of justice. The great theatre San Carlos is one of the most superb in Europe; and there are besides six inferior theatres.

The university of Naples was founded in 1224: its buildings, called the Palazzo degli Studii, are on a large scale. Its interior contains a collection of statues belonging formerly to the Roman Palazzo Farnese. It is divided into several compartments, each containing valuable literary collections: among them are 1. The library, with 90,000 volumes, a quantity of MSS., and specimens of the press of the fifteenth century; 2. The cabinet of the MSS. of Herculaneum, with the various machines for unfolding them; 3. The paintings; 4. The museum of sculpture; 5. A

collection of bronzes of Herculaneum and Pompeii; and, 6. A collection of Etruscan vases. Naples has also a number of schools and conservatorii. Its royal military school, naval college, college for the instruction of young Chinese and Japanese, school for music and the arts, and its deaf and dumb school are also of note. Institutions of a higher class are the royal academy of arts and sciences; the society of agriculture, manufactures, and arts; four public libraries; the botanical garden; and the observatory.

The charitable establishments comprise seven hospitals; above thirty schools for poor children of both sexes, who are boarded, educated, and taught, in some a mechanical occupation, in others music; five pawn banks for the industrious poor; and various inferior charity schools. The two principal hospitals are the *Degli Incurabili*, and *Della Annunziata*: the former is open to the sick of all descriptions; the latter, which is well endowed, is destined to receive foundlings and penitent females.

Though its commercial transactions will not in point of size bear comparison with those of Northern Europe, Naples is an active port for this part of the world. Its exports are confined to the products of the country, i. e. corn, silk, wool, cotton, oil, wine, and fruit. Silk is exported to France, Spain, and England. The wool of Puglia is much esteemed by the cloth manufacturers of France and Germany. Timber also forms a small object of export, together with different essences and liqueurs. The imports of Naples consist both of articles of necessity and luxury, colonial produce, and manufactures: from Marseilles they consist of silk stockings, hats, gold and silver lace, jewellery, woollens; linen, French wines, and tobacco; from England, fine woollens and cotton stuffs, mercery, manufactures of leather, tin, lead, and salt fish: from Holland, spices, drugs, pepper, and linen: from Switzerland, linen, printed cotton and muslin: from Germany, copper, lead, Silesian linen, skins, tobacco, and wax: from Spain and Portugal, drugs, dye-stuffs, tobacco, cochineal, indigo, and cocoa: from the Baltic, salted provisions and skins. Much of this trade is carried on in foreign bottoms, and particularly by British merchants and owners. Naples has manufactures of silk fabrics, stockings, gloves, lawn, lace, diaper, and cotton stuffs. Those of fire arms, china, and glass, are also of importance. Violins and other musical instruments are also well made here, as well as mahogany furniture, carriages, and snuff boxes of tortoise-shell, and the lava of Vesuvius.

The population of Naples, amounting to 330,000, consists according to a recent estimate of 155,000 males, and 175,000 females. The Lazzaroni, without either dwellings or regular occupation, work only to supply the immediate wants of nature, and seldom think of the future till roused by the call of hunger. They may be said to spend their life in the streets, lying in the shade, or sauntering about in the day, and sleeping at night on the pavement or under a public portico. Their number was formerly between 30,000 and 40,000; but some of them lost their lives in the late conflicts, and more were com-

pelled, under Murat, to take service in the army and navy; those who remain in Naples are employed as porters. Their number is still considerable; and beggars meet the eye in all directions. The want of cleanliness is also unfortunately as conspicuous here as at Rome; the rooms being infested with fleas and vermin. Sea-bathing, though so closely within reach, is very little resorted to.

Naples is surrounded by a wall defended by three large castles, i. e. the *Castello Nuovo* near the harbour, under which are extensive mines that connect it with the royal palace; its donjon is said to be of the thirteenth century; the *Castel del Ovo*, an oval fortress of some strength situated on a rock near the sea, and communicating by a mole with the public quay; and *St. Elmo*, standing also near the sea, to the west of the city, with extensive subterranean works.

In the environs of Naples, one of the most beautiful picturesque views is along the new road laid out by Murat. It winds round the acclivities of the promontory of Posilipo, hanging above the bay, and which, looking down on the fine masses of ancient palaces washed by the waves, reflects on the waters every form of the dilapidated architecture and romantic scenery. 'Here moulder the last traces of the Gothic pavilions of the famous Joan of Naples, whose beauty, genius, asserted erigies, and real misfortunes, form a counterpart to the fate and story of Mary of Scotland! Then come the shattered halls of Spanish viceroys, where many a sunjunctuous revel was held, furnished at the expense of a people's privations; and the less noted masses of tottering villas which skirt the *Scoglio di Virgilio*, unite the last modern casino of a tasteful English lady to the sites of the *Marechiano*, where stood the villa of Pollio, and the maritime retreat of Luellus, which forms the extremity of the promontory of Posilipo, a savage rock, from among whose wild entangled shrubs springs the Indian fig.' Beyond rises the hill, a promontory of Posilipo, where Virgil reposes. Here also is the *Grotta di Posilipo*.

We have noticed the *Sofatara* and *Grotta del Cane*. For *HERCULANEUM*, *POMPEII*, and *VESUVIUS*, we must refer to their alphabetical places. We can only here advert to the interesting scenes of the little town of *Portici*, four miles east of Naples, and the private retreat of 'Madama Murat,' the ex queen:—

'The high road of *Portici*,' says lady Morgan, 'runs through the old-fashioned paved court of its royal palace—a heavy eumbrous fabric, commanding the bay. Though one of the most considerable and finely situated of the royal villas, it must have been a most gloomy and incommodious one, before the elegant improvements made in it by its late active, but transitory queen. The old custode, who showed us the apartments, had some difficulty in naming his late mistress by the title of *Madama Murat*, instead of 'her majesty,' and had evidently got up a new vocabulary for the new (or old) regime. On entering, he observed to us that the whole of the very elegant vestibule, in which we stood, the broad and double staircase, the spacious corridor, and the beautiful little theatre, into which it opens,

were all 'fatti da madama Murat,' (made by madama Murat). Again, a gallery ornamented with superb candelabras, and accommodated with elegant ottomans, extorted the laconic 'fatto da madama Murat.' In a word, we found that endless suites of apartments, baths, cabinets, book-rooms, green-houses, orangeries, &c., &c., were all either painted, decorated, and furnished, or planned and erected 'da madama Murat.' Some of the rooms exhibited a very extraordinary degree of taste in 'consulting the genius of the place.' The walls were covered with paintings, copied from Pompeii, and the furniture was imitated from objects discovered there, and still preserved in the Museo at Naples. The raperies of the richest silk were all of the Neapolitan loom; for 'madame Murat' made a complete clearing out of all the old and tawdry furniture of this palace: so that, on the return of the royal family, they knew it as little as many other objects of her reformation and improvement; and expressed their surprise and admiration, with a naïveté that still contributes the current coin of an anecdote to the circulating medium of ridicules in Naples.*

'The apartments of the ex-queen are models of elegance and feminine taste. The bed-room, dressing-room, boudoir, and library, are eminently so; and have been left precisely as she last occupied them. Her dressing-boxes are on the toilette; a miniature of her nephew, the little Napoleon (hung by a riband), decorates the chimney-piece; her *dejeuné*, on an English tray, stands in the centre of the room; and some pretty *étrennes* (worked and embroidered for her by her ladies a few days before her reverses) are scattered on a sofa. 'Niente cangiato,' said the Cicerone, 'except this!' (and he approached her magnificent bed, and pointed to two large black crucifixes, and a pendent vase of holy water hung at its head)—'Non é quellauna moda Francese.' On the king and his wife sleeping one night at Portici, these sacred images were hung up for the occasion. In the dressing-room, all the necessaries of the toilette, in crystal and silver, still remain; even some silver brushes lying where the *femme-de-chambre* of the late fair inhabitant had left them. It is said that madame Murat carried even to affectation her determination of not removing any thing that belonged to her royal state, and took only what she considered personal and private property. She is said to have left Naples with a considerable property in jewels. She, however, left all the palaces newly and superbly furnished with plate, linen, pictures, &c., &c., &c.; 200 horses in the stables, and 108 carriages. Portici was her favorite residence, and the numerous English and Irish nobility, whom she received there, can

vouch for the courtesy and hospitality with which she did the honors of her palace. Murat's apartments join his wife's: they were equally luxurious, splendid, and commodious; the hangings all silk and satin; the carpets all English and Turkey. The toilette splendid and elegant, as that of the vainest petite maitresse, or royal beauty. Close to his superb sleeping-room is a simple little cabinet, with a small white dimity camp-bed, where his secretary slept. Here, in this little bed of the ex-secretary, sleeps the royal Bourbon—the legitimate king of Naples, when he makes his visits to Portici. It is said that he walks about the palace in endless amusement, admiring all the elegant finery of which he has become the master; but still adhering to the little dimity bed, and the secretary's closet, which resembles his own homely bed-room in his palace at Naples. He has added nothing but a large crucifix.'

The museum here, though now despoiled of its ancient bronzes, which are to be seen in the Musée Bourbon at Naples, contains several hundred paintings in fresco, taken from Herculaneum, Pompeii, and Stabia. The colors of these paintings are wonderfully fresh. 'One,' says our traveller just quoted, 'struck me particularly—it was a Sappho; her stylus pressed to her lip, and her tablets lying open before her. It probably decorated the cabinet of some learned lady of Pompeii.'

Mr. Matthews (Diary of an Invalid) found the museum at Portici, particularly interesting, as illustrative of the state of the art of painting among the Romans; though, as he adds, it would be ridiculous to take the paintings, on the walls of the houses of a provincial town, as the standard of their skill.

'It is fair to suppose,' he says, 'that the taste of the ancients was as refined and fastidious in painting, as in the sister art of sculpture; and that the praises, which they have lavished upon Zeuxis and Apelles, would have been supported by their works, if these works had come down to us. All traces of these great masters are lost; but we know some of the most admired pieces of the latter were brought by Augustus to Rome; and Pliny's descriptions, which do remain, seem to demonstrate, that they must have been executed in a much higher style of finishing, and with a technical knowledge, that will in vain be sought in the painted walls of Herculaneum and Pompeii. Many of these, however, are designed with great taste, grace, and feeling; and, if we suppose that the works of Zeuxis and Apelles were as superior to these as the Last Judgment and the School of Athens are to the painted walls of a modern Italian room, we shall probably not form too high an estimate of the excellence of the great masters of ancient art. One of the most elegant figures in this museum, is the picture of a female, with a pencil and tablets in her hand, which they call Sappho. The story of the picture is often plain, as is that of Orestes, Pylades, and Iphigenia, in the temple of Diana. In another there is an old woman selling Cupids to a young female, behind whom stands a sort of Duenna, in the attitude of advice and caution. The old retailer of loves holds a fluttering Cupid by the wings, and has another in her cage.'

* 'The king, on the restoration, sent the prince, his son, to look about him and bring him the news from Naples; for, having, like Falstaff, 'run away upon instinct,' he had an instinctive apprehension of returning, without first making enquiries as to the 'king-traps and grass-snakes set there.' The prince returned in raptures with his improved and beautiful palaces and city, exclaiming in the presence of many courtiers, 'Oh! papa mio! if you had only staid away another ten years!'

'We have also a specimen of their taste in caricature. A little delicate chariot, that might have been made by the fairies' coach-maker, is drawn by a parrot, and driven by a grasshopper. This is said to be a satirical representation of Nero's absurd pretensions as a singer and a driver; for, Suetonius tells us, he made his debut on the Neapolitan theatre. 'Et prodiit Neapolitimum: ibidem sæpius et per complures cantavit dies.' Here is also a curious picture of a school-master's room, with an unhappy culprit horsed on the back of one of his fellows; precisely as the same discipline is administered in many parts of England at present.

'Many articles, even of food, are to be seen preserved in a charcoal state. There is a loaf of bread on which the baker's name is still visible. It is easy to recognise the different fruits and vegetables, corn, rice, figs, almonds, walnuts, beans, lentils, &c. They show you also the remains of a woman found among the ashes, the skull of which is still perfect; with the necklace and bracelets of gold, which she must have had on. Time has hardened the liquid shower which overwhelmed her, recording that she perished in the prime of youth, by the impression that remains of her beautiful bosom.'

This author makes some curious remarks on the practise of gaming, which he found universal at Naples. He ascribes it wholly to what he calls the *tadium vitæ*. We connect it with the entire habits and manners of the people, and particularly with the pantomimic and debasing character of their religion. While the Neapolitans can endure the representation, by puppets of three feet high, of the ministry, persecution, crucifixion, and ascension of the Saviour, at a public theatre, or any thing in the same style, taste, or sentiment, we do not hesitate, with an intelligent modern writer, to pronounce them 'incapable of any political arrangements for the maintenance of good government, sound liberty,

or any wise or liberal plan of public improvement.' Mr. Matthews gives us an account of one of these exhibitions on the quay at Naples to an admiring and crowded audience; and to us it is decisive of the moral and intellectual character of the people.

So low is Naples sunk by its social and political vices in the scale of sentiment and intelligence, that the transition which our traveller makes from the noise of the quay, and the fooleries practised in the heart of the city to the Campo Santo, or place of public sepulture, did not strike us as at all abrupt. The Campo Santo is about a mile and a half from the town-gate; within its walls are 365 caverns, one of which is opened every day for the reception of the dead, the great mass of whom, as soon as the rites of religion have been performed, are brought here for burial. 'There were fifteen cast in,' says Mr. Matthews, 'while we were there; men, women, and children—without a rag to cover them;—it was a shocking sight;—a mass of blood and garbage, for many of the bodies had been opened at the hospitals. Cock-roaches, and other reptiles, were crawling about in all their glory.' While Mr. Matthews and his companions were making their reflections on the scene before them, some women were saying *ave marias* at the place for the souls of their friends; who, as soon as they saw the travellers, left their pious work, and began making their calculations upon some circumstances connected with the lottery, as the number of their carriage, &c., to direct them in the selection of lucky numbers in the lottery.

Within a mile of Portici stands Favorita, the villa of the late queen of Ferdinand, Caroline of Austria. For more of her character and exploits, see our articles NELSON and SICILY. Naples is 110 miles south-east of Rome; 380 S. S. E. of Milan; and about 1000 south-east of Paris.

N A P O L E O N .

NAPOLÉON. This name stands like a magnificent parenthesis in the history of the French monarchy, between the comparatively insignificant ones of Louis the unfortunate and Louis the desired. The former was hurled from his throne by the fury of a revolution, which, in its commencement, promised to confer substantial liberty upon a nation which had long groaned under every species of despotism; and the latter was restored to the dignity of his ancestors after that revolution had established and overthrown one of the mightiest tyrannies that licentiousness and anarchy ever consolidated to be the scourge and the curse of the human race. The soul and essence of this tyranny was Napoleon Buonaparte. From him it derived its splendor, its power, and its atrocity. He was at once its creator and its victim. Nursed in the cradle of revolution, and educated in its school, none of those principles which bind men in conscientious allegiance to what is right in religion, in morals,

or in politics, were permitted to take the slightest root in his mind. He was surrounded by impiety and blasphemy; and what he saw of religion disgusted him by its superstition and intolerance. The only accredited principle which assumed the character of virtue was the monstrous birth of the new order of things, and was more formidable than all the vices. Civicism generated every crime at which humanity shudders, and threatened for a season the entire denaturalisation of the species.

Such a state of society produced Napoleon Buonaparte: it formed his character, and that character is perfectly developed in his rapid and wonderful career. Those who seconded his views, and united to consolidate his power, grew up under the same influence. How a revolution, which commenced in a generous love of freedom, and many of whose promoters were at first sincerely devoted to the best interests of their country, should have led to so disastrous an

issue, presents no difficulty to those at all acquainted with the character of the people of France at the period when they resolved to emancipate themselves from the galling thralldom they had so long endured. To be impatient of tyranny is one thing; to be prepared for the enjoyment of liberty is another. None but a virtuous and religious people can achieve for themselves such a deliverance from oppression as shall secure to them the blessings of an internal and permanent freedom. Revolution, to be successful and prosperous, against an ancient and deep-rooted tyranny, must be begun and conducted under the auspices of private and public virtue. Liberty never comes to any people by accident. It must spring out of the principles of knowledge, truth and righteousness, and be the deliberate will of the high minded and the good. The revolution of France failed through the want of the moral preparation for liberty, without which the blessing cannot be secured. She was not ripe for the good she sought. She was too corrupt for freedom. What could be expected from a struggle excited by that heartless scoffer the infidel Voltaire, and maintained by others who, like him, had thrown off all the connexions which ennoble the mind? The being and the government of God, the patriot's trust and refuge in the otherwise unequal conflict between despotism and freedom, and human immortality, that truth which is the seed of all greatness, were made by the apostles of French liberty the perpetual subjects of scorn and derision. In their philosophy man was a creature of chance, a compound of matter, an ephemeron, a worm, who was soon to rot, and perish for ever. What insanity was it to expect that such men were to work out the emancipation of their race! that in such hands the hopes and dearest rights of humanity were secure! Liberty was tainted by their touch; yet some there were who trusted that it was to rise in wealth and glory from their embrace.

Napoleon appeared on the stage at the precise period that was most favorable to his military successes and subsequent elevation to supreme power. The Jacobins, by their innumerable massacres and murders, had become the dread and the execration of the French people. Their sanguinary leaders at length met the fate which their crimes deserved. Robespierre fell at once the victim of popular fury, of suicidal cowardice, and conventional denunciation. With the Jacobins, what was properly the republic perished; and the convention did not long survive. The directory arose, and soon prepared the way for the master spirit, who, on their ruin, was to build the mightiest, and yet the weakest structure, that was ever reared by the hand of tyranny. Our limits forbid our taking even a rapid view of the origin, progress, and different phases, of the revolution in France. An account of them will be found under that article. We must content ourselves with a very brief sketch of the life of Napoleon. He was born in Ajaccio, on the 15th day of August, 1769, the son of Charles Buonaparte, a Corsican advocate, and Letitia Ramolini. Early intended for the profession of arms, he was, by the influence of count

Marbœuf, the French governor of Corsica, admitted to the Artillery and Engineer Royal School of Brienne. His family were remarkable for talents; and his mother was one of the most extraordinary women of her age. Napoleon very early discovered his own superiority to them all, and to the most distinguished of his associates and contemporaries. With a high degree of mathematical proficiency, even when quite a boy, he displayed something of that peculiar spirit which characterised his life—a love at once for adventure, and for severe secluded mental effort—a desire of distinction, and a disregard of the popular habits which lead to its acquirement—a contempt of literature, with a passion for modelling himself on the classic heroes. In 1783, at the age of fourteen, he was one of the scholars who, at the annual competition at Brienne, were selected to be sent to the military school at Paris to finish their education. This was at a period when he had not quite attained the requisite age. But he was indebted for his good fortune to the favor of M. Keralio, the inspector of the school, who, when remonstrated with on the subject, replied, 'I know what I am about; and, if I am transgressing the rules, it is not on account of family influence. I know nothing of the friends of this youth. I am actuated only by my own opinion of his merit: I perceive in him a spark of genius which cannot be too early fostered.' M. Keralio died before he could carry this resolution into effect; however, M. de Regnaud, his successor, the next year fulfilled his intentions, and young Napoleon was sent to Paris.

He was scarcely eighteen years of age when the abbe Raynal, struck with the extent of his acquirements, appreciated them so highly as to invite him to his scientific *déjeunés*. The celebrated Paoli was also accustomed to say, 'This young man is formed on the ancient model; he is one of Plutarch's men.' About this period he was appointed second lieutenant in a regiment of artillery, the regiment de la Fère. In the leisure of garrison duty at Valence, he indulged himself in the fashionable employment of the aspiring young men of France. He wrote an essay on one of the questions of Raynal, touching the perfectibility of human government. As he was then, in theory at least, a republican, we may conclude that the essay was revolutionary. When emperor, he burned this specimen of opinions, yet uncorrected by the command of armies and the possession of a crown.

In the year 1792, having previously espoused the popular side, and joined himself with the most violent partizans of liberty, he was summoned to Paris from his native island to justify his conduct in quelling an insurrection which he was accused of having provoked for the purpose of rendering himself useful in repelling it. This was a remarkable period, which terminated, for a season, the dynasty of the Capets. On his return to Corsica, after the memorable 10th of August in that year, he at length found an opportunity of exercising his military talents. France was proclaimed a republic. Though the regiment of Buonaparte was divided into royalists and republicans, and the spirit of party ran high,

he did not hesitate. He had commenced with liberty, and he determined to follow the revolutionists. The power of the Jacobins, and their stern daring inflexibility, he considered as an apology for their atrocities. He fought under their banners, and profited by their ruin. It was at the moment when republican France was attacked by all the powers of Europe, that the military talents of Buonaparte were called into action. He accompanied the fleet of admiral Triquet in a descent upon Sardinia. The expedition, it is said, was directed by him, and he seized upon the island and fort of St. Etienne, as well as the Isle de la Madeleine. It was in this expedition that Buonaparte took the part of France against his native island, and that internal and consistent liberty which its inhabitants were all anxious to consolidate under the auspices of the veteran Paoli. Notwithstanding its early success, it finally failed, owing to the bravery of the inhabitants of Cagliari, who saluted their invaders with showers of red hot balls, and repulsed and utterly defeated them. The proscription of the conquered was the consequence. Buonaparte had signalised himself too much to be spared. A decree, excited and signed by Paoli, condemned him to perpetual banishment. With his family he was driven from his native shores to seek an asylum and subsistence in his adopted country, with no flattering prospect either of support for them, or honorable employment for himself. Their place of refuge was Marseilles, where madame Buonaparte, her three daughters, and Jerome, who was a mere child, are supposed to have undergone considerable distress, until the dawning prospects of Napoleon afforded him the means of assisting them. Napoleon never again revisited Corsica, nor does he appear to have regarded it with any feelings of affection. One small fountain at Ajaccio is pointed out as the only ornament which his bounty bestowed on his birth place.

Napoleon and his brother Louis, having lost every thing by the turn of affairs in Corsica, engaged themselves in the republican military service. The former returned into the artillery as a first lieutenant in the fourth regiment of that corps in which, a few months after, he was raised by seniority to the rank of captain. This was in the year 1793. When the measure of Jacobin iniquity was charged almost to the brim—when by shedding all the royal and noble blood which they could bring within the operation of their murderous instrument the guillotine, and filling prisons with promiscuous multitudes, that they might enjoy the savage delight of undistinguished massacre—these detestable demagogues had secured to themselves the supreme power, under the appropriate designation of ‘the Reign of Terror.’ It was at this time that the first instance of importance occurred which enabled Buonaparte to distinguish himself in the eyes of the French nation, and of the world at large. Several principal towns of France, inspired with a just dread and abhorrence of the proceedings of the Jacobins, and instigated also by the intrigues of the Girondists, were induced to take up arms against the convention: among these Toulon was the most considerable. It is

the arsenal of France, and contained at the time when it declared for the royal cause, and against the Jacobins, immense naval stores, besides a fleet of seventeen sail of the line ready for sea, and thirteen or fourteen more which stood in need of refitting. The inhabitants and municipality had invited the support of the English and Spanish squadrons who were cruising upon the coast. Accordingly a disembarkation was made, and a miscellaneous force, partly collected of Spaniards, Sardinians, Neapolitans, and English, was thrown into the place. It was of course soon invested by the army of the republic; and that it was not defended by vigorous measures on the part of the allies, and held by them so as to have produced marked effects on the result of the war, must ever be contemplated by Englishmen with equal shame and regret. The siege, however, was a glorious opportunity for displaying the talents of the youthful hero, and subsequent conqueror of the world. He baffled the imbecile counsels of his superiors in command, animated the sinking courage of some who were for raising the siege, and decreed and executed a plan of operation as skilful as it was bold, and which decided the fate of the town. The appointment of Buonaparte to this arduous task was no doubt the result of his known principles as a Jacobin, and the high professional character which he had acquired in the military school, in the archives of which his genius is described as being of the first order. In this his first great achievement, as a military commander, he evinced remarkable self-possession and courage. To ensure success, of which he became increasingly confident when he found himself possessed of the complete concurrence of his general, he used the utmost vigilance and exertion, and exposed his person to every risk.

One of the dangers which he incurred was of a singular character. An artilleryman being shot at the gun which he was serving, while Napoleon was visiting a battery, he took up the dead man's rammer, and, to give encouragement to the soldiers, charged the gun repeatedly with his own hands. In consequence of using this implement he caught an infectious cutaneous complaint, which, being injudiciously treated and thrown inward was of great prejudice to his health, until after his Italian campaigns when he was completely cured by Dr. Corvissart; after which for the first time he showed that tendency to embonpoint, which marked the latter part of his life. As the siege advanced, lieutenant-general O'Hara hurried from Gibraltar with reinforcements to the besieged, and assumed the chief command. The capture of this brave and experienced officer disheartened the garrison, and precipitated the evacuation of Toulon. Buonaparte, in a conversation with Mr. Barry O'Meara, describes the event, in which he declares that he made general O'Hara prisoner with his own hand. ‘I had constructed,’ said he, ‘a masked battery of eight twenty-four-pounders and four mortars, in order to open upon fort Malbosquet, which was in possession of the English. It was finished in the evening, and it was my intention to have opened upon them in the morning. While I was giving directions at another part of

the army, some of the deputies of the convention came down. In those days, they sometimes took upon them to direct the operations of the armies, and those imbeciles ordered the battery to commence, which was obeyed. As soon as I saw this premature fire, I immediately conceived that the English general would attack the battery, and most probably carry it, as matters had not been yet arranged to support it. In fact, O'Hara seeing that the fire from the battery would dislodge his troops from Malbosquet, from which last I would have taken the fort which commanded the harbour, determined upon attacking it. Accordingly in the morning he put himself at the head of his troops, sallied out, and actually carried the battery and the lines which I had formed to the left, and those to the right were taken by the Neapolitans. While he was busy in spiking the guns, I advanced with 300 or 400 grenadiers unperceived, through a boyau covered with olive trees, which communicated with the battery, and commenced a terrible fire upon his troops. The English, astonished, at first supposed that the Neapolitans, who had lines on the right, had mistaken them for French, and said, 'It is those canaglie of Neapolitans who are firing upon us.' O'Hara ran out of the battery, and advanced towards us. In advancing, he was wounded by the fire of a serjeant, and I, who stood at the mouth of the boyau, seized him by the coat, and threw him back amongst my own men, thinking he was a colonel, as he had two epaulettes on. While they were taking him to the rear, he cried out that he was the commander-in-chief of the English. He thought they were going to massacre him, as there existed a horrible order at that time from the convention, to give no quarter to the English. I ran up and prevented the soldiers from ill treating him. He spoke very bad French, and, as I saw that he thought they intended to butcher him, I did every thing in my power to console him, and gave directions that his wound should be immediately dressed, and every attention paid to him. He afterwards begged of me to give him a statement of the manner of his capture, to show it to his government in his justification. Those blockheads of deputies,' continued Napoleon, 'wanted to attack and storm the town first; but I explained to them that it was very strong, and that we should lose many men; that the best way would be to make ourselves masters of the forts first, which commanded the harbour, and then the English would either be taken, or be obliged to burn the greatest part of their fleet and escape. My advice was taken, and the English, perceiving what would be the result, set fire to the ships, and abandoned the town.'

The horrors of war were never more visible than in the concluding scene of this tragic siege. Such was the dread of the victors' cruelty that upwards of 1400 persons accepted the melancholy refuge afforded them in the numerous merchant ships and other craft which crowded the port, but which the vanquished allies were about to employ as the vehicles to convey them to places of safety. Amid this general confusion and distress, there was other work to do. The stern policy of war required that the resources of

the conquered force should not be available to the victors; it was therefore resolved, that the arsenal and naval stores, with such of the French ships as were not ready for sea, should be destroyed, and they were set on fire accordingly. The rising conflagration, growing redder and redder, seemed at length a great volcano, amid which were long distinctly seen the masts and yards of the burning vessels, and which rendered obscurely visible the advancing bodies of republican troops, who attempted on different points to push their way into the place. The Jacobins began to rise in the town upon the flying royalists;—horrid screams and yells of vengeance and revolutionary choruses were heard to mingle with the cries and plaintive intreaties of the remaining fugitives, who had not yet found means of embarkation. The guns from Malbosquet, now possessed by the French, and turned on the bulwarks of the town increased the uproar. At once a shock like that of an earthquake, occasioned by the explosion of many hundred barrels of gunpowder silenced all noise save its own, and threw high into the midnight heaven a thousand blazing fragments, which descended threatening ruin wherever they fell. A second explosion took place, as the other magazine blew up, with the same dreadful effects. It was upon this night of terror, conflagration, and blood, that the star of Napoleon first ascended.

So many of the citizens of Toulon concerned in the late resistance had escaped by the means provided by the English, that republican vengeance could not collect its victims in the usual numbers. Many, however, were shot; and it has been said that Buonaparte commanded the artillery by which they were exterminated; and also that he wrote a letter to Fréron and the younger Robespierre, congratulating them and himself on the execution of these aristocrats, and signed, Brutus Buonaparte Sans culotte. If he actually commanded at this execution, he had the poor apology that he must do so, or himself perish; but had the fact and the letter been genuine, there has been enough of time since his downfall, to prove the truth of the accusation, and certainly enough of writers disposed to give these proofs publicity. He himself positively denied the charge; and alleged that the creatures were shot by a detachment of what was called the revolutionary army, and not by troops of the line. Soon after the retaking of Toulon, Buonaparte accompanied general Dugommier, under whom he had achieved so much glory for himself and the army, to Marseille, and was with him in company there, when some one, struck with his person, asked the general who that *little bit of an officer* was and where he had picked him up? 'That officer's name,' replied the general, 'is Buonaparte; I picked him up at the siege of Toulon, to the successful termination of which he eminently contributed; and you will probably see one day that *this little bit of an officer* is a greater man than any of us.'

It was to the frank generosity of this brave old man that the young officer of artillery was chiefly indebted for the next step which conducted to his elevation. The deputies from the convention to whom the conduct of the affair of Toulon was

entrusted, and who never appeared in the trenches till three hours after the storming of the port which led to the evacuation of the town, had the impudence to arrogate to themselves the entire glory of the exploit. They failed not to dwell with complacency on the wonderful feats of Riccord, Salicetti, and young Robespierre; they led the attack with sabre in hand, they showed the troops the road to victory; on the other hand they ungraciously forget in these despatches to mention so much as the name of Buonaparte to whom the victory was entirely to be ascribed. Dugommier resolved to do the youthful hero that justice which was withheld from him by the jealousy and vanity of the redoubtable deputies. Buonaparte's name was placed in the list of those whom he recommended for promotion, with the pointed addition, that if neglected he would be sure to force his own way. He was accordingly confirmed in his provisional situation of chief of battalion, and appointed to hold that rank in the army of Italy. Before joining that army, the genius of Napoleon was employed in surveying and fortifying the sea coast of the Mediterranean. This was a troublesome appointment, and not only involved him in disputes with the local authority of small towns, villages, and even hamlets, but actually exposed him to great risk with the convention at home. In prosecuting his task he had proposed repairing an old state prison at Marseilles, called the fort of St. Nicholas, that it might serve as a powder magazine. The patriots of Marseilles charged the commandant with an intention to rebuild this fort to serve as a bastille in controlling the good citizens. Buonaparte was at this time in Italy, but the officer who was summoned to the bar of the convention, gave such an account of the origin and purpose of the undertaking as divested it of all share of suspicion, even in the suspicious eye of the committee of public safety. While Napoleon was improving the state and position of the army on the frontiers of Italy, and directing the means for attaining various important successes which were as preliminaries of the greatest importance to his subsequent triumphs in that chief field of his glory, the downfall of Robespierre, and the dissolution of the Jacobin faction (which happened on the 27th and 28th of July 1794), threatened him with the most disastrous consequences, and aimed a fatal blow at all his prospects. He was the recognised friend of the tyrant's brother, and was understood to have participated in the tone of exaggerated patriotism affected by his party. He was therefore superseded in his command, and for a time detained under arrest. This was removed by the interposition of his countryman Salicetti; and he retired into the bosom of his family at Marseilles. In May 1795 he came to Paris to solicit employment in his profession. He found himself unfriended and indigent in the city of which he was at no distant period to be the ruler. Some individuals, however, assisted him, and among others the celebrated performer Talma, who had known him while at the military school, and even then entertained high expectations of the part in life which was to be played by 'le Petit Buonaparte.'

On the other hand, as a favorer of the Jaco-

bins his solicitations for employment were resolutely opposed. His situation becoming daily more unpleasant, he solicited Barras and Fréron, men who had preserved their credit in the convention, for occupation in almost any line of his profession, and even negotiated for permission to go into the Turkish service to train the musulmans to the use of artillery. He was offered a command in La Vendée, which he declined to accept, and was finally named to command a brigade of artillery in Holland; but he never filled up the appointment. Fortunately for Buonaparte the man who had been the great obstacle to his hopes and wishes was removed, and his office supplied by M. Pontevulant, who not only recommissioned the persecuted victim of his predecessor, but retained him in Paris to assist the labors of the military council, to whom Buonaparte submitted the stupendous plan of his Italian campaign in 1796; which he afterwards carried into execution. This plan might have been taken for a real report of operations actually performed, rather than an outline of such as had only been projected; such was the precision with which every measure afterwards adopted had been previously foreseen.

The quarrel between the convention and the forty-eight sections of Paris, which eventually placed Buonaparte in a more distinguished situation than ever he had held before, originated in their passing the two obnoxious laws of the 5th and 13th of Fructidor, 22d and 30th of August, 1795. These decrees expressed, that two-thirds of the members composing the convention should be re-elected for the new legislature. The people, especially the Parisians, could not endure the idea of men re-electing themselves; as, upon the principle they had acted for two years, they might continue for life, and thus establish a system infinitely more odious than absolute monarchy. Besides, the convention was justly represented as a body of tyrants and assassins, purged, indeed, of the most infamous monsters, such as Robespierre and others, yet still continuing the murderers of the 2d of September, the conspirators of the 31st of May, the applauders of the assassination of the Gironde party, &c.

This convention, on Sunday October 4th, declared their intentions of having recourse to arms by a proclamation, and, after the lapse of a few hours, Napoleon Buonaparte, by accepting an appointment as second in command under M. Barras, had pledged himself to support their measures of coercion. The plea set up in justification of this conduct, by Napoleon and his friends, rests upon the circumstance 'that the convention was successively torn by factions, which were never able to acquire any stability, but varied their principles almost every month. The interior of the republic was afflicted by a horrible system of reaction: the national domains could no longer find purchasers; the assignats fell every day, the armies were without money, being till then only supplied by requisitions and the maximum; the magazines were also empty, and the soldier was no longer sure of bread. Even the recruiting had ceased, though the armies continued to gain great advantages,

because they were more numerous than ever. The party of the Bourbons was every day increasing. Pichegru, the first general of the republic, had been gained over. All parties were tired of the convention, and it was tired of itself. It had promised the nation a constitution; and it perverted at length that the safety of that, and its own also, depended on the fulfilment of the expectations which had been raised. On the 25th of June, 1795, it adopted the constitution known under the title of that of the year III. The government was entrusted to five persons, under the name of the Directory; the legislature to two councils, called the Council of Five Hundred, and the Council of the Ancients.

The Parisians, dissatisfied and mutinous, with upwards of 40,000 men in their interest, were resolved to annihilate the government. Menou, the general of the convention, acted either with duplicity or cowardice; and was, after the first skirmish with one of the sections, which he permitted to triumph, deprived of his command. The government was at this crisis in the hands of Barras. Barras had been at the siege of Toulon, and remembered the energy of Buonaparte. Buonaparte had been a spectator of the assault of the Thuilleries on the 10th of August, and had been known to express his contempt equally of the defence and of the attack. It is not improbable that in the present crisis the professional soldier should have repeated his contempt, or that the habitual solicitor for employment should have offered his services. He was sent for by Barras and invested with the command of 6000 troops, the last hope of the convention. He threw his little army into the Thuilleries, prepared for battle on the instant, and within a few hours received, at the mouth of his guns, the attack of 30,000 men. The action was brief; the army of the sections was staggered by finding that the first furious impulse of a mob was no longer to be victory, even in Paris. A few discharges of grape-shot scattered them like sheep from the front of the armed posts; and from that day forth the reign of the rabble was undone. The convention, rescued from the guillotine, was grateful; and, while Barras was placed at the head of the garrison of Paris, Buonaparte was appointed second in command. One of the many phases of the revolution was now passed. Barras and his colleague formed the directory; and Buonaparte, vigorous and able, and publicly devoted to the ruling party, must have felt himself in the high road to fortune. Meantime circumstances introduced Buonaparte to an acquaintance which was destined to have much influence on his future fate. A fine boy, of ten or twelve years old, presented himself at the levee of the general of the interior with a request of a nature unusually interesting. He stated his name to be Eugène Beauharnois, son of the ci-devant vicomte De Beauharnois, who, adhering to the revolutionary party, had been a general in the republican service upon the Rhine; and, falling under the causeless suspicion of the committee of public safety, was delivered to the revolutionary tribunal, and fell by its sentence just four days before the overthrow of Robespierre. Eugène was come to

request of Buonaparte, as general of the interior, that his father's sword might be restored to him. The prayer of the young suppliant was as interesting as his manners were engaging, and Napoleon felt so much interest in him that he was induced to cultivate the acquaintance of Eugène's mother, afterwards the empress Josephine. This lady was a Creolian, the daughter of a planter in St. Domingo. Her name at full length was Marie Joseph Rose Tascher de la Pagerie. She had suffered her revolutionary miseries. In her misfortunes she had formed an intimacy with a companion in distress, Madame Fontenac, afterwards Madame Tallien, from which she derived great advantages after her friend's marriage. They were both liberated from the same prison, where they had been confined as suspected persons, and became the most conspicuous ornaments of Parisian society. When Madame Beauharnois and general Buonaparte became intimate, the latter assures us, and we see no reason to doubt him, that although the lady was two or three years older than himself, yet, being still in the full bloom of beauty, and extremely agreeable in her manners, he was induced solely by her personal charms to make her an offer of his hand, heart, and fortune. His marrying Madame Beauharnois was a means of uniting his fortune with those of Barras and Tallien; the first of whom governed France as one of the directors, and the last from family and political connexions had scarcely inferior influence. He had already deserved well of them for his conduct on the day of the sections; but he required their countenance to rise still higher; and, without derogating from the bride's merit, we may suppose her influence in their society corresponded with the views of her lover. They were married 9th of March, 1796; and the dowry of the bride was the chief command of the Italian armies; a scene which opened a full career to the ambition of the youthful general. Buonaparte remained with his wife only three days after his marriage; and, it is said, at a time when no hazard of the troops required his presence. This has been used as a proof that his union with Madame Beauharnois was a heartless compact of interest, and that he thus took no pains to conceal the fact from the knowledge of the world. Imputations, too, have been unsparingly thrown upon the reputation of the lady, which we think the whole tenor of her after life sufficiently contradicts; and it is certain that, so far as Buonaparte was capable of loving, he regarded Josephine with undissembled affection.

Buonaparte's Italian birth, and consequent acquaintance with the language, the habits, and the impulses of Italy; his earliest campaign, which had been on its frontier; the temptation to a conquest, alluring to France by the opulence and by the divisions of its sovereignties; the nature and acknowledged superiority of the French soldier over the indolent and effeminate men of the south; all stimulated him to the attack of Italy. With the directory the motives were, if less personal, equally strong. The battle had, till now, been fought along the eastern and northern boundaries of France.

Austria, often defeated, had still struggled boldly; and army after army had been lost in the attempt to plunge into the land of forests and mountains beyond the Rhine. The talents of the ablest generals, and the gallantry of the most enthusiastic troops of the republic, had been wasted against the solid fortresses, or the still more unconquerable morasses, defiles, and torrents, of that vast region of wild nature and fierce soldiery. But Italy lay before the French armies an open campaign. The German was there stripped of the native defences that check the march of an invader more than the sword. He was, like the Frenchman, a stranger in a land of strangers; and, if more known, was known but as the foreign master of a people feeling their chains enough to rejoice at the coming of a foreign deliverer, though without the honest energy to break them for themselves. The plan of crossing the Alps, and marching into Italy, suited in every respect the ambitious and self-confident character of the general to whom it was now entrusted. It gave him a separate and independent authority, and the power of acting on his own judgment and responsibility. His departure from Paris, to commence this celebrated campaign, took place on the 1st of March, 1796. He was the only person who was not astonished at his good fortune. When a friend, who was congratulating him upon his appointment, testified some surprise at his youth, he replied, 'I shall return old.' His mind was made up to the alternative of conquest or ruin, as many judged from his words to another friend at taking leave of him, 'In three months,' he said, 'I will be either at Milan or Paris;' intimating at once his desperate resolution to succeed, and his sense that the disappointment of all his prospects must be the consequence of a failure.

Buonaparte found his army lying exposed on the mountains without tents, in rags, without pay, and full of murmurs at themselves and their government. But they amounted to more than 50,000 men; active, and accustomed to the mountain hardships and warfare, eager for plunder and battle, and contemptuous of the enemy. Delay would have produced mutiny; if his nature had not been the total reverse of tardiness. He led them instantly to the passage of the Alps by the lower range, where the mountains stoop to the Mediterranean. In accomplishing this he anticipated the difficulties which he skillfully obviated, and astonished the enemy, in whose presence it was done, by the fertility of his genius and the celerity of his movements. This enemy was the Austro-Sardinian army, cantoned on the hills under which he was marching towards Genoa, and who were united for the defence at once of Turin and the Milanese, under the command of Beaulieu. The ages of the opposing generals were as strongly contrasted as their fortunes. Buonaparte was twenty-six, Beaulieu seventy-five. The Austrians poured down in separate columns on the army moving below: the French resisted bravely, but on the whole were beaten until nightfall; but their general was now in the field made for the display of his subtle activity. While the Austrians, intending

to complete the victory, next morning halted on the ground, Buonaparte put his troops in motion, manœuvred round the Austrian centre during the night, and by day-break rushed to an attack, which broke the enemy with the loss of colors, guns, and some thousand prisoners. This first great victory of Buonaparte, in his memorable Italian campaign, was fought on the 10th of April, 1796. On the 11th the Austrian general was obliged to extricate himself by a disastrous retreat. This battle, which has obtained the name of the battle of Monte Notte, exhibited all the peculiarities of the military tactics of the conqueror, as well as exposed the miserable system then adopted by the continental armies opposed to France. What these peculiarities were, one of the great captain's biographers has finely described. 'As war becomes a profession, and a subject of deep study, it is gradually discovered that the principles of tactics depend upon mathematical and arithmetical science; and that the commander will be victorious who can assemble the greatest number of forces upon the same point at the same moment, notwithstanding an inferiority of numbers to the enemy when the general force is computed on both sides. No man ever possessed in a greater degree than Buonaparte the power of calculation and combination necessary for directing such decisive manœuvres. It constituted, indeed, his secret, as it was for some time called, and that secret consisted in an imagination fertile in expedients which would never have occurred to others; clearness and precision in forming his plans; a mode of directing with certainty the separate moving columns which were to execute them, by arranging so that each division should arrive on the destined position at the exact time when their service was necessary; and, above all, in the knowledge which enabled such a master spirit to choose the most fitting subordinate implements to attach them to his person, and, by explaining to them so much of his plan as it was necessary each should execute, to secure the exertion of their utmost ability in carrying it into effect. Thus not only were his manœuvres, however daring, executed with a precision which warlike operations had not attained before his time, but they were also performed with a celerity which gave them almost always the effect of surprise. Napoleon was like lightning in the eyes of his enemies; and, when repeated experience had taught them to expect this portentous rapidity of movement, it sometimes induced his opponents to wait in a dubious and hesitating posture, for attacks, which, with less apprehension of their antagonist, they would have thought it more prudent to frustrate and to anticipate.' The battle of Monte Notte developed all these striking characteristics of the youthful general. In the moment of the greatest peril, he eminently displayed that truth and mathematical certainty of combination which enabled him suddenly to concentrate his forces, and defeat his enemy by overpowering him on the very point where he thought himself strongest. He accumulated a superior force on the Austrian centre, which he destroyed; while Colli on the right, and Beaulieu himself on the left, each at the head of

numerous forces, did not even hear of the action till it was fought and won.

The beaten army still strong, and still resisting, was again attacked by the indefatigable soldier. Incessant battle at length routed the Austrians; they trembled for the Milanese. The Sardinians withdrew to the defence of their territory: the latter were pursued. Turin was the nearer prize. The king of Sardinia saw his fugitive army driven within two leagues of his capital. He had no alternative but unconditional submission; and the terms exacted from him were such as conquerors usually dictate to the vanquished. It is curious to contrast the address of the conqueror to his army when they set out on this expedition, and when, at the close of the first month, they had prostrated all opposition, and opened the clear passage of the Alps to the future invasion which France might meditate:— ‘Soldiers, you are naked, ill-fed—much is due to us; there is nothing to pay us with. The patience and courage you have shown in the midst of these rocks are admirable; but they win you no glory. I come to lead you into the most fertile plains in the world; rich provinces, great cities, will be in your power. There you will have wealth, honor, and glory. Soldiers of Italy! can your courage fail?’ These words were addressed to his troops on the 29th of March. On the 8th of April he was within a day’s march of Turin, and, having subdued the Sardinian government, could thus address his troops:—‘You have, in fifteen days, gained six victories, taken twenty-one stand of colors, fifty-five pieces of cannon, and conquered the richest part of Piedmont. Your services are equal to those of the army of Holland and of the Rhine. You were in want of every thing, but you have provided every thing. You have gained battles without cannon; passed rivers without bridges; made forced marches without shoes; bivouacked without brandy, and often without bread. None but republican phalanxes could have done so. For this you have the thanks of your country.’

At Ceva, and from the heights of Montezemoto, Napoleon enjoyed the splendid view of the fertile fields of Piedmont, stretching in boundless perspective beneath his feet, watered by the Po, the Tanaro, and a thousand other streams which descend from the Alps. Before the delighted eyes of the army of victors lay the rich expanse like a promised land; behind them was the wilderness they had passed: not indeed a desert of barren sand similar to that in which the Israelites wandered, but a huge tract of rocks and inaccessible mountains, crested with ice and snow, seeming by nature designed as the barrier and rampart of the blessed regions which stretched eastward beneath them. We can sympathise with the self-congratulation of the general who had surmounted such tremendous obstacles in a way so unusual. He said to the officers around him, as they gazed upon this magnificent scene, ‘Hannibal took the Alps by storm: we have succeeded as well by turning their flank.’ To commemorate these brilliant successes, a medal of Buonaparte was struck in the character of the conqueror of the battle of Monte Notte. The face is extremely thin, with

dark hair, a striking contrast to the fleshy square countenance exhibited on his later coins: on the reverse Victory bearing a palm branch, a wreath of laurel, and a naked sword is seen flying over the Alps. This medal was the first of the splendid series which records the victories and honors of Napoleon, and which was designed by Denon as a tribute to the genius of his patron.

The ardent disposition of Buonaparte did not long permit him to rest after the advantages which he had secured. He determined to give the republic of Venice, the grand duchy of Tuscany, and other states in Italy, no time to muster forces, and take a decided part, as they were likely to do, to oppose a French invasion. A speedy resolution was the more necessary, as Austria, alarmed for her Italian possessions, was about to make every effort for their defence. Orders had already been sent by the Aulic council of war to detach an army of 30,000 men, under Wurmser, from the army of the Rhine, to the frontiers of Italy. These were to be strengthened by other reinforcements from the interior, and by such forces as could be raised in the mountainous district of the Tyrol, which furnishes perhaps the most experienced and most formidable sharp shooters in the world. The whole was to be united to the fragments of Beaulieu’s defeated troops. To prevent this junction, and to beat the different forces in succession, required all the promptitude of Buonaparte, and the enthusiastic order of his troops. These were not wanting. But the general and army, much as they had achieved, considered nothing as won so long as the Austrians held Milan. The military genius of Buonaparte never appeared to greater advantage than in the skill with which he manœuvred to out-general his veteran foe. But not only was skill necessary; hard fighting was indispensable; and the French performed prodigies of valor. By a succession of desperate battles they drew the Austrians over the Po, the Mincio, and the Adda. The daring attack of the bridge of Lodi laid Milan open on the 10th of May 1796. Of this memorable day Sir Walter Scott and Buonaparte have given a most interesting account:—

Upon the 10th of May, attended by his best generals, and heading the choicest of his troops, Napoleon pressed forward towards Lodi. About a league from Casale he encountered the Austrian rear-guard, who had been left, it would appear, at too great a distance from their main body. The French had no difficulty in driving these troops before them in the town of Lodi, which was but slightly defended by the few soldiers whom Beaulieu had left on the western or right side of the Adda. He had also neglected to destroy the bridge, although he ought rather to have supported a defence on the right bank of the river (for which the town afforded many facilities) till the purpose of destruction was completed, than have allowed it to exist. If his rear-guard had been actually stationed in Lodi, instead of being so far in the rear of the main body, they might, by a protracted resistance from the old walls and houses, have given time for this necessary act of demolition.

But, though the bridge was left standing, it

was swept by twenty or thirty Austrian pieces of artillery, whose thunders menaced death to any one who should attempt that pass of peril. The French, with great alertness, got as many guns in position on the left bank, and answered this tremendous fire with equal spirit. During this cannonade Buonaparte threw himself personally amongst the fire in order to station two guns, loaded with grape shot, in such a position as rendered it impossible for any one to approach for the purpose of undermining or destroying the bridge; and then calmly proceeded to make arrangements for a desperate attempt. His cavalry was directed to cross, if possible, at a place where the Adda was said to be fordable; a task which they accomplished with difficulty. Meantime Napoleon observed that the Austrian line of infantry was thrown considerably behind the batteries of artillery which they supported, in order that they might have the advantage of a bending slope of ground, which afforded them shelter from the French fire. He therefore drew up a close column of 3000 grenadiers, protected from the artillery of the Austrians by the walls and houses of the town, and yet considerably nearer the enemy's line of guns on the opposite side of the Adda than were their own infantry, which ought to have protected them. The column of grenadiers, thus secured, waited in comparative safety until the appearance of the French cavalry, who had crossed the ford, began to disquiet the flank of Austrians. This was the critical moment which Buonaparte expected. A single word of command wheeled the head of the column of grenadiers to the left, and placed it on the perilous bridge. The word was given to advance, and they rushed on with loud shouts of *Vive la Republique!* But their appearance upon the bridge was a signal for a redoubled shower of grape shot, while, from the windows of the houses on the left side of the river, the soldiers who occupied them poured volley after volley of musketry on the thick column as it endeavoured to force its way over the long bridge. At one time the French grenadiers, unable to sustain this dreadful storm, appeared for an instant to hesitate. But Berthier, the chief of Buonaparte's staff, with Masséna, D'Allemagne, and Cervéni, hurried to the head of the column, and, by their presence and gallantry, renewed the resolution of the soldiers, who now poured across the bridge. The Austrians had but one resource left, to rush on the French with the bayonet, and kill or drive back into the Adda those who had forced their passage, before they could deploy into line, or receive support from their comrades, who were still filing along the bridge. But the opportunity was neglected, either because the troops, who should have executed the manœuvre, had been, as we have already noticed, withdrawn too far from the river; or because the soldiery, as happens when they repose too much confidence in a strong position, became panic struck when they saw it unexpectedly carried; or it may be that general Beaulieu, so old and so unfortunate, had somewhat lost that energy and presence of mind which the critical moment demanded. Whatever was the cause, the French rushed on

the artillerymen, from whose fire they had lately suffered so tremendously, and, unsupported as they were, had little difficulty in bayoneting them. The Austrian army now completely gave way, and lost in their retreat, annoyed as it was by the French cavalry, upwards of twenty guns, 1000 prisoners, and perhaps 2000 more wounded and slain.

Such was the famous passage of the bridge of Lodi; achieved with such skill and gallantry as gave the victor the same character for fearless intrepidity and practical talent in actual battle, which the former part of the campaign had gained him as a most able tactician.

'Of all the actions in which the troops under my command have been engaged,' said Buonaparte, in his despatches to the Directory, 'none has equalled the tremendous passage of the bridge of Lodi. If we have lost,' continued he, 'but few soldiers, it has been owing merely to the promptitude of our attacks, and the sudden effect produced on the enemy by the formidable fire of our invincible army. Were I to name all the officers who distinguished themselves in this battle I should be obliged to enumerate every carabinier of the advanced guard, and almost every officer belonging to the staff. I must not, however, omit the intrepid Berthier, who acted on this eventful day as a bombardier, a cavalry officer, and a grenadier.'

The French cavalry pursued the retreating Austrians as far as Cremona, of which they took possession. Pizzighitona was obliged to capitulate, the garrison being cut off from all possibility of succour. About 500 prisoners surrendered in that fortress.

It was at this time that Buonaparte had some conversation with an old Hungarian officer, made prisoner in one of the actions, whom he met with at a bivouac by chance, and who did not know him. The veteran's language was a curious commentary on the whole campaign; nay, upon Buonaparte's general system of warfare, which appeared so extraordinary to those who had long practised the art on more formal principles. 'Things are going on as ill and irregularly as possible,' said the old martinet; 'the French have got a young general who knows nothing of the regular rules of war; he is sometimes in one point, sometimes on the flank, sometimes on the rear; there is no supporting such a gross violation of rules.' The court at Milan was thrown into consternation by the successes of the French at the bridge of Lodi. The archduke Ferdinand, by whom Austrian Lombardy was governed, with his duchess, immediately quitted their capital, followed by a small retinue, and leaving only a moderate force in the citadel, which was not in a very defensible condition. The Milanese citizens, released from the restraint imposed on them by the presence of their sovereign, and willing to propitiate their approaching conquerors, began, with real or affected zeal for republicanism, to prepare themselves for the reception of the French. The three-colored cockade was at first timidly assumed; but, the example being shown, it seemed as if these emblems had fallen like snow into the laps and hats of the multitude. The imperial arms were removed from the public buildings,

and a placard was put on the palace of the government with an inscription, 'This house to be let; apply for the keys to the French commissioner Salicetti.' On the 14th of May Buonaparte made his public entry into Milan under a triumphal arch prepared for the occasion, which he traversed surrounded by his guards, and took up his residence in the archiepiscopal palace. The same evening a splendid entertainment was given, and the tree of liberty (of which the aristocrats observed, that it was a bare pole, without either leaves or fruit, roots or branches) was erected with great form in the principal square. All this affectation of popular joy did not disarm the purpose of the French general, to make Milan contribute to the relief of his army. He imposed upon the place a requisition of 20,000,000 of livres. Italy was now in the view of the conqueror; and though no state in all the extent of that fair and rich domain could be exactly said to be at open war with the new republic, Buonaparte was determined that this should make no difference in his mode of treating them. The duchies of Parma and Modena were obliged to purchase an armistice by heavy sacrifices; and now began that species of spoliation, on the part of the French, which drew down upon the republican, consular, and monarchical government, the deep execration of the civilised world. The duke of Modena, who was duke of Parma, was compelled to surrender twenty of his choicest pictures, to be selected at the choice of the French general and the persons of taste with whom he might advise. It was in vain that the first of these personages remonstrated against what he deemed a sacrilege upon religion and taste, that he offered to redeem one picture alone (the celebrated St. Jerome by Correggio), for 2,000,000 of livres. The money was refused, and the painting forwarded to Paris. Buonaparte announced its approach by the following sarcasm at the expense of the fallen shrines of piety in that corrupt and atheistical city:—'I will send you as soon as possible the finest pictures of Correggio, amongst others a St. Jerome. I must own that the saint takes an unlucky time to visit Paris, but I hope you will grant him the honors of the museum.' The same system was followed at Milan, where several of the most valuable articles were taken from the Ambrosian collection.

But the triumph of the French arms was still to be purchased by a long and bloody warfare. Austria had hitherto defended Italy only with its old garrison. The strength of the empire had rolled to the German frontier; but now the stream was changed, and the military might of a population of 25,000,000 was to pour from the Tyrol upon the assailant who had dared to violate the ancient monarchy of the Cæsars. But the talent and vivid daring of Buonaparte were born for the mastery over the slow and heavy courage of Austria. Three successive armies, under Wurmser, Alvinzi, and the archduke Charles, were pierced by the fiery charge of the French columns; and Buonaparte at last climbed the Tyrolese hills to see the remnant of the archduke's army flying before him, scattering dismay through the immense countries at his

feet. One obstacle alone had remained to delay his march to consummate triumph—Mantua. This great fortress had been the central point of the Austrian operations. It was singularly strong by art and by position; and while it contained a hostile garrison, no French army in Italy could feel itself secure. Advance was rendered difficult; but casual repulse might become ruin, while the troops in Mantua waited only to fall upon the flanks and rear of the retreating army. But the siege was singularly hazardous. The fortress and city stand on an island formed by the overflowing of the Mincio, and the only access to which was by five causeways, one of them strongly fortified. See our article MILAN. The French, impatient of delay, were called out to be led to the storm; but some partial events soon convinced them that the walls of Mantua were to cost time and blood. But its position was obviously favorable to blockade. The neglected state of the Austrian fortresses rendered it probable, that a garrison of 12,000 men might be speedily starved into surrender. Four of the causeways were attacked, the Austrian communications with the country were cut off, and Serrurier was left at the head of a force inferior to the besieged to wait the work of famine.

No conqueror ever felt more deeply the maxim, that an invader must never pause. Disengaging the chief strength of his army from the siege of Mantua, and relieved for the present from the pursuit of the enemy in the field, he threw his force into the shape of moveable columns, and ranged at will through the north-east and west of the peninsula. He forced the Venetians to a reluctant and dishonorable submission; he seized the harbours of Tuscany; he invaded, plundered, and alienated the papal territories; he put down insurrection; he formed new governments; and ceased from this sleepless round of success only when the sound of the trumpets from the Alps told him that his work was not yet done, and that he was again to face and to overwhelm the gallant soldiery of the empire.

The battle of Rivoli, the bloodiest of his Italian successes, at length decided the fall of Mantua. Wurmser had resisted, with a firmness worthy of the importance of his trust, the assaults of the enemy, and the still more formidable pressures of disease and famine. The relief of the fortress was now beyond hope. The Austrian armies had been scattered like dust before the feet of the invaders; his garrison was reduced to extremity, and his aid-de-camp Klenau was sent to treat for a surrender. Buonaparte was present at the interview with the blockading general. But all things in France are theatrical, and Buonaparte stood wrapt from head to foot in a mantle; the mysterious spirit of the conference, which he finished by casting off his disguise, and pronouncing those oracular phrases, in which every Frenchman delights, in which Buonaparte delighted more than all, and which he and his people had equally learned from the stage. But his conduct was not yet destitute of that courtesy which belongs to brave men, gaining honor from each other by the long

display of skill and intrepidity. Writing down the conditions of surrender, he left it at Wurmser's disposal to accept them on the spot, or at almost any interval required by his military honor. The letter to the directory on this occasion contained a testimony to the valor of the defeated general; and the act of surrender itself was marked by the delicacy of his declining to be present when Wurmser gave up his sword at the head of his garrison. These traits of feeling were so soon obliterated from the character of Napoleon, that they deserve commemoration even for the sake of contrast.

Buonaparte was now free to seize upon the last honors of these extraordinary campaigns. He had cleared Italy of all native opposition, and levelled it into a magnificent parade for the troops of the republic. Mantua lay behind him; a bulwark for his rear, and ready to thunder on the first gathering of insurrection. The return of his columns, which had gone like whirlwinds through the Italian provinces, subduing and wasting, gave him an army in the highest preparation for war; numerous, opulent, elevated by continued victory, contemptuous of its enemy, passionate for conquest, and devoted to its general as to the living genius of battle; who well knew the power of the mighty instrument in his hands. With the conquest of Vienna in view, he thus addressed his army:—

‘Soldiers! the taking of Mantua has finished a campaign which has given you an everlasting claim upon the gratitude of your country. You have been victorious in fourteen pitched battles and in seventy combats; you have taken more than 100,000 prisoners; you have taken from the enemy 500 field-pieces, 2000 pieces of large calibre, and the equipage of four bridges. The contributions imposed upon the conquered countries have fed, clothed, and paid the army during the whole of the campaign; and, moreover, you have sent 30,000,000 to the public treasury. You have enriched the museum of Paris with more than 300 objects, chefs d’œuvre of ancient and modern Italy. You have conquered for the republic the finest countries in Europe. The Lombard and Cispadane republics are indebted to you for their liberty; their colors float for the first time upon the Adriatic. The kings of Sardinia and Naples, the pope, the duke of Parma, are detached from the coalition of our enemies, and have solicited our amity. You have driven the English from Leghorn, from Genoa, and from Corsica. But you have not yet achieved every thing—a grand destiny is still reserved for you; in you the country has placed its dearest hopes; continue to be worthy of them.

‘Of the number of enemies that coalesced to stifle the republic in its birth, the emperor of Germany alone remains: he has degraded himself from the dignity of a great power, by accepting pay from the merchants of London. He has neither politics, nor will separate from those perfidious islanders, who, strangers to the calamities of war, contemplate its ravages upon the continent with pleasure.

‘The executive directory has spared no pains to give peace to Europe. The moderation of its

propositions have borne no proportion with the strength of its armies. It has not consulted your courage, but, listening to the voice of humanity, has endeavored to effect your return to the bosoms of your families. Its voice has not been heard at Vienna. There is then no hope but in seeking peace in the heart of the hereditary states of the house of Austria. You will there find a brave people weighed down by the war they have had with the Turks, and by the present war. The inhabitants of Vienna, and the states of Austria, groan under the blindness and arbitrary conduct of the government. There is not an individual who is not convinced that the gold of England has corrupted the ministers of the emperor. You will respect their religion and their manners, and protect their property. You carry liberty to the brave Hungarian nation.

‘The house of Austria, which, in every war for three ages past, has lost a part of its power, and who, discontented with its subjects, has despoiled them of their privileges, will find itself reduced at the end of this war to accept the peace we shall grant it, and to descend in reality to the rank of a secondary power, in which it has already placed itself, by taking wages from, and putting itself at the disposal of England.

‘BUONAPARTE.’

The archduke Charles, the last hope of imperial generalship, at the head of the last army of the empire, was attacked on the Tagliamento, and was forced from river to river, and from entrenchment to entrenchment. His troops were drawn up on the verge of the last barrier of the empire, when, to his astonishment, he received a proposal for peace. It was the policy of Buonaparte—a policy which he retained in all his future wars, to seize on the moment of some signal success, for the proposition of a treaty, and in that proposition to demand terms less advantageous than the conqueror might be entitled to expect. By this moderation he often surprised the dispirited enemy into a glad acquiescence. But his game was not yet closed. The final treaty often grew in severity of conditions, which were yet complied with from the difficulty of resuming a hostile attitude, the reluctance of sovereigns to appal their people with the news that the period of bloodshed must suddenly return, and the actual sacrifices already made; the abandonment of territory, population, and fortresses, as pledges for the negotiation. But, if the treaty remained a losing one, he still had the remedy which he never failed to use; he treasured up his wrath until he saw his antagonist disarmed. A pretext for attack was made, a French army was instantly flung upon the frontier, and in three months the French flag was seen flying from the turrets of the enemy's capital. Buonaparte's letter to the archduke is memorable, even as a record of his abrupt and ostentatious, yet subtle style:—

‘It is the part of a brave soldier to make war, but to wish for peace. The present strife has lasted for six years. Have we not yet slain enough of men, and sufficiently outraged humanity? Peace is demanded on all sides. Europe at large has laid down the arms assumed against the French republic. Your nation remains alone

in hostility, and yet blood flows faster than ever. This sixth campaign has commenced under ominous circumstances. End how it will, some thousands of men more will be slain on either side; and at length, after all, we must come to an agreement, for every thing must have an end at last—even the angry passions of men. The executive directory made known to the emperor their desire to put a period to the war which desolates both countries; but the intervention of the court of London opposed it. Are there no means of coming to an understanding, and must we continue to cut each others throats for the interests or passions of a nation, herself a stranger to the miseries of war? You, the general in chief, who approach by birth so near the crown, and are above all those petty passions which agitate ministers and the members of government, will you resolve to be the benefactor of mankind, and the true saviour of Germany? Do not suppose that I mean by that expression to intimate that it is impossible for you to defend yourself by force of arms; but, under the supposition that fortune were to become favorable to you, Germany would be equally exposed to ravage.

‘With respect to my own feelings, general, if this proposition should be the means of saving one single life, I should prefer a civic crown so merited to the melancholy glory attending military triumph.’

The archduke’s grave and simple answer was a striking contrast to this theatrical declamation.

‘Unquestionably, sir, in making war and in following the road prescribed by honor and duty, I desire as much as you the attainment of peace for the happiness of the people, and for the sake of humanity. Considering, however, that in the situation I hold it is no part of my business to enquire into and determine the quarrel of the belligerent powers, and that I am not furnished on the part of the emperor with any plenipotentiary powers for treating, you will excuse me, general, if I do not enter into a negotiation with you touching a matter of the highest importance but which does not lie within my department. Whatever shall happen, either respecting the future chances of the war, or the prospect of peace, I request you to be equally convinced of my distinguished esteem.’

The negotiation was broken off; the archduke made a lion-like retreat, fighting through the mountains, and turning fiercely on the French, who hung on his march step by step, until Upper Styria was evacuated, and Buonaparte, entering upon Lower Styria, saw before him the boundless plain of Austria, and, between his battalions and the walls of Vienna, nothing but a fugitive population, cities terrified and throwing open their gates, and a broken host carrying dismay far and wide.

He descended from the hills and advanced within a few marches of the capital, where the archduke had determined to fight the final battle for his country. But the spirit of the Germans was at last broken; the fears of a great and luxurious city roused by the unusual clamors of war, and still more nearly touched by the sight of the wounded and wreck of its own volunteers, over-

whelmed the courage of the government. The court gave the fatal example of despair by sending its treasures into Hungary. The archduke alone raised his voice in the grand council for resistance to the last. The army, indignant at defeat and strongly devoted to this gallant soldier, were ready to perish with him before a French foot should pollute the mother city of the empire. He represented to the council that Buonaparte at every step in advance was leaving his resources behind, that he was plunging into a country where every man’s hand would be raised against him, that the warlike dependencies of Austria were ready to pour down their thousands and tens of thousands on the rear of the French, and finally that peace now made would be only a truce leading to a bloodier and more conclusive war. On the 13th of April, 1797, the preliminaries of peace were signed at Leoben. Buonaparte had felt the hazard of his position in the midst of the hostile millions of Austria; and he acknowledged it in his answer to the murmurs of the directory, at his giving a respite to the empire. ‘If,’ said he, in his despatch from Leoben, ‘at the commencement of the Italian campaigns, I had made a point of going to Turin, I should never have passed the Po; had I insisted prematurely on advancing to Rome, I should never have secured Milan; and, now had I made an indispensable object of reaching Vienna, I might have destroyed the republic.’

In some of the battles and situations which marked the progress and character of the Italian campaigns, circumstances of a personal nature to Buonaparte occurred, which cannot be omitted in any notice of his life, however brief.

‘It seems a singular custom was established in the army of Italy. After each battle, the oldest soldiers used to hold a council, and confer a new rank on their young general, who, when he made his appearance in the camp, was received by the veterans, and saluted by his new title. They made Buonaparte a corporal at Lodi, and a serjeant at Castiglione; and hence the surname of petit caporal, which for a long time was applied to him by the soldiers.

‘The right to command, which Buonaparte possessed in a very great degree, appeared so undeniable, that every one yielded to it, from the general down to the private. One day he had occasion to complain to Berthier that the measures prescribed for provisioning the army had not been followed, ‘That,’ said Berthier, ‘is astonishing; however, I have given my orders for this purpose.’—‘What do you call your orders?’ replied Buonaparte, briskly. ‘Here is only one man who has any right to give orders, and that is myself; it is the business of the rest to obey: and so to begin with you, sir, mount your horse, and see that my orders are obeyed.’

A body of 4000 or 5000 Austrians, partly composed of those who had been cut off at the battle of Lonado, partly of stragglers from Lunsdonowich, received information from the peasantry, that the French troops, having departed in every direction to improve their success, had only left a garrison of 1200 men in the town of Lonado, the commander of the division resolved instantly to take possession of the town, and thus

to open his march to the Mincio, to join Wurmser. Now it happened that Buonaparte himself, coming from Castiglione with only his staff for protection, had just entered Lonado. He was surprised when an Austrian officer was brought before him blindfolded, as is the custom on such occasions, who summoned the French commandant of Lonado to surrender to a superior force of Austrians, who, he stated, were already forming columns of attack to carry the place by irresistible force of numbers. Buonaparte, with admirable presence of mind, collected his numerous staff around him, caused the officer's eyes to be unbandaged, that he might see in whose presence he stood, and upbraided him with the insolence of which he had been guilty, in bringing a summons of surrender to the French commander-in-chief in the middle of his army. The credulous officer, recognising the presence of Buonaparte, and believing it impossible that he could be there without at least a strong division of his army, stammered out an apology, and returned to persuade his dispirited commander to surrender himself and the 5000 men and upwards whom he commanded, to the comparatively small force which occupied Lonado. They grounded their arms accordingly to one-fourth of their number, and missed an inviting and easy opportunity of carrying Buonaparte prisoner to Wurmser's head quarters.

'The number of the dead near Bassano was considerable. Curious to ascertain the loss of the enemy, Buonaparte in the evening rode over the field with his staff, when their notice was attracted by the howlings of a dog, that seemed to increase in proportion as they approached the spot whence they proceeded. 'In the deep silence of a beautiful moon-light night,' said the emperor, 'a dog leaping suddenly from beneath the clothes of his dead master, rushed upon us, and then immediately returned to his hiding-place, howling piteously. He alternately licked his master's hand, and ran towards us, as if at once soliciting aid and seeking revenge. Whether owing to my own particular turn of mind at that moment, the time, the place, or the action itself, I know not, but certainly no incident on any field of battle ever produced so deep an impression on me. I involuntarily stopped to contemplate the scene. This man, thought I, has friends in the camp or in his company, and here he lies forsaken by all except his dog. What a lesson nature presents here, through the medium of an animal! What a strange being is man! and how mysterious are his impressions! I had without emotion ordered battles which were to decide the fate of the army: I had beheld with tearless eye the execution of those operations by which numbers of my countrymen were sacrificed; and here my feelings were roused by the mournful howlings of a dog! Certainly at that moment I should have been easily moved by a suppliant enemy. I could very well imagine Achilles surrendering up the body of Hector at the sight of Priam's tears.'

Several anecdotes are related, of the danger to which Buonaparte was personally exposed during the three days' fighting at Arcole. Las Cases, mentioning the bridge at Arcole, says, 'Here

Napoleon in person tried a last effort: he seized a standard, rushed towards the bridge, and fixed it there. The column he led had half cleared the bridge when the flank fire caused their attack to fail. The grenadiers of the head of the column, abandoned by the rear, hesitate and are induced to retire; but they will not abandon their general: they seize him by his arms, his hair, and his clothes, and drag him along with them in their flight, amidst the dead, the dying, the fire and the smoke. The general-in-chief is thrown into a marsh, where he sinks up to the middle: he is in the midst of the enemy; but the French perceive that their general is not amongst them. A cry is heard of 'Soldiers! forward to rescue the general!' These brave men instantly turn, and rush upon the enemy; they drive them beyond the bridge, and Napoleon is saved.'

'Napoleon acknowledged, whilst at St. Helena, that he considered himself in the greatest danger at Arcole; his horse was shot under him; when, rendered furious by the wound, the animal seized the bit between his teeth, and galloped on towards the enemy. In the agonies of death he plunged into a morass, and expired, leaving his rider nearly up to his neck in the swamp, and in a situation from which, as he could not extricate himself, he thought the Austrians would have come and cut off his head, which appeared just above the surface. However the approach of the French troops in all probability prevented them.'

'After these three hard fought days of Arcole, Buonaparte surprised a sleeping sentinel. Napoleon, who offered up his own repose as a sacrifice for the more imperious calls of promptitude and glory, proceeded, alone, to visit the outskirts of the camp, and in this survey arrived at the spot where lay extended the sleeping sentinel, who could hardly be deemed guilty of a breach of duty, but the unwilling victim of extreme fatigue, that totally overpowered him. Buonaparte, unmindful of his dignity, and actuated only by noble motives, took up the soldier's musket, which lay beside him; when, placing it upon his own shoulder, he continued to mount guard for nearly an hour, in order to insure the safety of the camp. The grenadier at length awoke, and sought for his piece in vain, but, by the light of the moon, perceived the general, who had thus paid respect to his repose.

'O! I am undone!' vociferated the soldier, recognising Napoleon, whose lineaments are graven upon the heart of every warrior.

'No, my friend,' replied the general with extreme affability, at the same time surrendering up his musket, 'the battle was obstinate and long enough contested to excuse your having thus yielded to the impulse of fatigue; one moment of inattention, however, might endanger the safety of the camp; I was awake, and have only to advise that you would be more upon your guard for the future!'

Among the officers who perished in the battle of Arcole, were Muiron, as before related, and Elliot, whose names have been consecrated by Buonaparte to immortality; the former fell on the 15th, the latter on the 16th, and both near the

general-in-chief, whom they attended as aides-de-camp. The death of the former was attended with peculiar circumstances: as Buonaparte was advancing, the colonel, seeing him exposed to imminent danger, threw himself before him, covered him with his body, and received the wound intended for Napoleon. 'He fell,' said he, 'at my feet, and his blood spouted up in my face.' In relating this he remarked that no soldiers ever showed more devotion than his, even when expiring: with the last drop of blood gushing out of their veins, they exclaimed, 'Vive l'Empereur !'

In the death of Muiron, France lost an officer of the greatest promise. In writing to the directory, Buonaparte observed, 'Citizen Muiron had served in the artillery from the earliest period of the revolution, and distinguished himself at Toulon, where he was wounded in entering the embrasure of an English redoubt. His father, being a farmer-general, was arrested, but young Muiron, presenting himself to the National Convention covered with wounds, obtained the liberation of his parent. On the 13th Vendemaire he defended the convention, conducted himself as a brave man, and was very useful on that day in which liberty was preserved. Citizen Muiron has been my aide-de-camp ever since the commencement of the Italian campaign, and has on every occasion rendered essential services, and died gloriously on the field of battle at Arcole, leaving a young widow in the eighth month of her pregnancy. I demand, therefore, that the name of Madame Berrault de Courville be erased from the list of emigrants, upon which it has been placed, though she never emigrated.' Buonaparte made the same demand for the brother-in-law of Muiron.

Buonaparte wrote the following letter to his widow:—'Muiron died by my side at the battle of Arcole. You have lost a husband that was dear to you; and I have lost a friend to whom I have been long attached; but the country has lost more than either of us. If I can serve you or his infant in any manner, I hope you will reckon entirely upon me.'

Buonaparte never forgot Muiron; he named one of the vessels after him that went to Egypt. At St. Helena he wished to take the name of colonel Muiron—another proof of his esteem for his friend. The successor of Muiron, as his aide-de-camp, was the honorable but unfortunate Lavalette.

Elliot, who shared the fate of Muiron, was the nephew of Clarke, to whom Buonaparte wrote as follows:—'Your nephew has been killed upon the field of battle at Arcole. This young man had familiarised himself with arms; he had often marched at the head of columns; he would have been an estimable officer. In combating the enemy his death was glorious. He did not suffer an instant. What reasonable man would not envy such a death? Who, amidst the vicissitudes of this life, would not think himself happy in this manner to leave a world so frequently contemptible? Who, amongst us, has not a hundred times regretted the want of an opportunity to withdraw from the powerful effects of calumny, envy, and all those hateful passions,

which seem almost entirely to direct the conduct of men?'

The treaty of Campo Formio, the basis of which was prepared at Leoben, ceded to France the Belgic provinces, a boundary on the Rhine, and the virtual possession of a large part of the north of Italy, as the protectress of the Cisalpine republic which had been formed under the auspices of Napoleon. Austria was compensated by the seizure of Venice, an act of deep criminality both in those who gave and those who profited by the sweeping plunder; yet almost to be looked on as the retributive vengeance of a superior will against the sullen tyranny and cureless corruption of the Venetian oligarchy. Even the hypocritical speech of Buonaparte to the envoys of the senate touches on topics that might have roused the indignation of humanity and virtue. 'I will go myself,' said the fierce moralist, 'I will go and destroy your dungeons on the bridge of tears—opinions shall be free: I will have no inquisition!' He added, in his usual strain of ominous threat and artful exaggeration, 'I might have gone to Vienna if I had willed—I have made peace with the emperor—I have 80,000 men, twenty gun-boats—I will hear of no inquisition and no senate—I will dictate the law to you—I will be an Attila to Venice—if you cannot disarm your population I will do it in your stead—your government is antiquated, it must crumble to pieces.' Thus with the fall of one republic, a thousand years old, and the establishment of another, the fatal humiliation of the mightiest and most ancient dynasty of Europe, and the elevation of France to a height from which her fiery strength might pour down with more consuming and resistless force upon the nations, the Italian campaigns closed.

The conqueror returned to Paris covered with glory, an object of admiration to the people, and of apprehensive dread to the government. When he was gaining those very triumphs which the directory lauded to the skies, they were resolved if possible to neutralize his power. But in this they were disappointed. Their efforts only discovered their jealousy and their weakness. They proposed to divide the army of Italy betwixt Buonaparte and Villeneuve, and at a moment too when the former was flushed with the victories which had laid Italy at his feet. Buonaparte felt the insult, which he resented by sending in his resignation. 'One bad general,' he said, 'was better than two good ones.' The directory were forced to yield, and the general's ascendancy became greater from this ineffectual check. This did not of course repress the apprehensions of the government, or remove their instinctive distrust of that waxing influence which was destined one day to overpower their own. They wished him any where but at Paris, where they felt his presence to be dangerous. But he conducted himself with consummate prudence. He avoided, as far as he decently could, drawing upon himself public attention. His companions were men of letters. Science and the arts engrossed his whole mind; that, at least, was the impression which his conduct made upon superficial observers. But he was restless; and inactivity was the bane of his existence. He felt too that he

was an object of suspicion to the directory, which, at variance with each other, unpopular with the nation, and despised by the armies, were, nevertheless, resolved to retain their power against every competitor. But Buonaparte entertained views of supplanting them he could not conceal from himself, and it was equally obvious to all who were acquainted with the lofty character of his ambition. But as the time was not come, or, to use his own metaphor, as 'the fruit was not ripe,' it was necessary that he should open to himself another field of exertion, where he might reap the glorious harvest of conquest and renown. Visions of oriental dominion dazzled his imagination, the subjugation of Egypt, which was to reveal to science the buried treasures of the birth-place of all knowledge, and give to France a new colony, with all that had been torn from her by the British arms: the gate to India, and the secure citadel of the Mediterranean. This was the magnificent, and we may truly add the atrocious, project which he submitted to the directory, which they at once adopted, and which they appointed the conqueror of Italy to execute: whatever they thought of the undertaking itself their motives were undoubtedly those of freeing themselves from the invidious presence of a servant in whom they dreaded a master; and of chaining up, far from France, a body of troops fierce with victory, and sworn to the fortunes of their general. Be it remembered, at this period of meditated and unprovoked invasion, Egypt was a province of the grand signior, with whom France was in profound peace, and who according to the long established relations of Europe was her natural ally. On the 19th of May, 1798, the Egyptian armament sailed from Toulon. On the 29th of June the troops landed at Alexandria and pursued the armed Copts and Mamelukes through the valley of the Nile into Upper Egypt. But the enemy that was yet to confront and pursue Napoleon through all his career, to grow with his growth and strengthen with his strength, and finally to strike him to the earth without hope, was now roused. On the 15th of August the British fleet, under Nelson, was seen steering down on the bay of Aboukir. The French fleet was instantly attacked. The long preparations for defence, the land batteries, the hazards of a difficult and untried shore, all gave way to Nelson. In an action, whose story is immortal, the French armament was destroyed, the French expedition sealed up in a foreign country, and England made the mistress of the Mediterranean.

The vague and wild hope entertained by Buonaparte of making an impression on the eastern world, which might place its destinies at his command, and give him a throne more enviable than Europe could bestow, soon vanished from his view; while his moral obliquities, his contempt of God and man, his mean hypocrisy and deep impiety, were seen at this early period of his career. The poisoning at Jaffa we put out of the question: it is neither more nor less than a foul calumny. But the massacre at that place is universally known; and it is a crime without palliation. That the victims had for-

feited their faith to a lawless conqueror, who had fought them in their native land for the purpose of spoilage and destruction, is no palliation of the wholesale murder which was perpetrated at Jaffa. 1200 prisoners, and probably more, who had surrendered themselves to Napoleon, and were apparently admitted to quarter, were two days after marched out of the fort, divided into small bodies, and then deliberately shot; and, in case the musket was not effectual, were despatched by bayonets. This was an outrage which cannot be sheltered by the laws and usages of war, barbarous as they are. It was the deed of a bandit and a savage, and ought to be execrated by good men, who value and would preserve the mitigations which Christianity has infused into the conduct of national hostilities. But in this, and in all the other passages of his public life, Buonaparte was not restrained by any sense of virtue or humanity: with him no means which promised success were thought the worse for their guilt. But crimes against humanity, in conquerors and usurpers, are too common to excite either much wonder or deep indignation, as society is at present constituted. Yet few men have gone to such length in impious extravagance as this man of destiny. It was not enough for him to boast of his triumph over the cross, or to profess Mahometanism. He claimed inspiration and a commission from God, and was anxious to join the character of prophet to that of hero. This was the beginning of the great weaknesses and errors into which he was betrayed by that spirit of self-exaggeration which, under the influence of past success, and of unbounded flattery, was already growing into a kind of insanity. In his own view he was fit to be a compeer with Mahomet. His greatness in his own eyes made him blind to the folly of urging his supernatural claims on the Turk, who contemned even more than he abhorred a Frank; and who would sooner have sold himself a slave to Christians than have acknowledged a renegade Christian as a sharer of the glories of Mahomet.

On the arrival of the fleet at Alexandria, Buonaparte issued a proclamation, from which we extract the following:—

'The people whom we are going amongst, are Mahometans; the first article of their faith runs thus:—There is no other God but God, and Mahomet is his prophet. Do not contradict them; act with them as we have done with the Jews, and with the Italians; pay respect to their muftis and their imams, the same as you have to rabbis and bishops; show the same tolerance for their mosques, and all the ceremonies prescribed by their Alcoran, as you have already shown for convents and synagogues, for the religion of Moses, and for that of Jesus Christ.'

At length the French disembarked from the roads of the town, which they attacked, and which capitulated, after a dreadful carnage; the inhabitants, however, were respected by their conquerors; their commander concluded a treaty with the Arabs, and, so far from opposing their religious customs, he spoke of Mahomet as an extraordinary personage, who was worthy of the homage of all nations. In his first proclamation

to the Alexandrians there is found this remarkable passage :—

‘ Cadies, sheicks, imans, tehorbajas, tell your people that we are the true Mussulmans. Was it not we that overthrew the power of the pope?’

The Arabs, who in the morning had attacked the advanced guard, sent a deputation to the general-in-chief, with some French soldiers who had fallen into their hands. They declared that, as the French only came to fight the Mamelukes, they could not be their enemies. Buonaparte broke bread with them, as a symbol of the faith of treaties, and made them various presents. They warmly expressed their gratitude; they swore to be faithful to the alliance! and returned, plundering all the French they encountered!

From Alexandria the army took the road to Cairo, and defeated the Arabs and Mamelukes, who had gathered together to dispute with them the passage to Rhamania and Chabrane. The Mameluke cavalry sought in vain to cut down the French troops; they remained in an impenetrable line; twenty times they were about to charge, but were restrained by fear; at length they thought proper to make good their retreat.

In the morning of the 10th of July the army came in sight of the pyramids, and at night they were within six leagues of Cairo. They found twenty-three beys entrenched with all their force at Embabe; Buonaparte caused them to be attacked in their intrenchments, by Generals Dessaix and Rampon; and, notwithstanding their fine appearance and some sorties, victory declared in favor of the French. Almost all the Mamelukes were slain; 2000 cavalry, and the greater number of the beys, fell on this day: their leader, Murad Bey, was wounded in the cheek. More than fifty pieces of cannon, and 400 loaded camels, became the spoil of the conquerors.

This brilliant victory was followed by the surrender of Cairo, on the 22d of July; but, before Buonaparte entered that city, he addressed a proclamation to the inhabitants:

‘ People of Cairo, I am satisfied with your behaviour; you did well not to oppose yourselves against me: I am come to destroy the race of the Mamelukes, and to protect the commerce of the natives. Be easy, you have nought to fear; let each individual return peaceably to his home, continue to exercise your usual ceremonies of religious worship, for it is my will they should be continued. Fear not for your wives, your houses, nor your properties; dread not the disturbance of that religion which I sincerely venerate.’

On the 1st of August, 1798, the battle of Aboukir, so fatal to the French navy, took place: Buonaparte wrote to the directory on that eventful day as follows:

‘ It appeared to me that admiral Brueys would not go to Corfu till he was certain it was impossible for him to enter the port of Alexandria, and that the army, from which he had received no intelligence for a considerable time, should be in a position which would prevent their retreating. If, in this fatal instance, he has been in fault, he has expiated his error by a glorious death. In this circumstance destiny has been

uncontrollable, as in many others, and it proves to us, that if it gives us the subjugation of the continent, it gives the empire of the seas to our rivals. But, however severe this reverse of fortune, it can be attributed only to her accustomed fickleness: she has not yet abandoned us, so far from it, she has favored us, during this operation, more than she ever did before.

‘ When I arrived before Alexandria, I learnt that the English had passed by with a powerful force a few days before. In spite of a terrible storm, at the risk of being shipwrecked, I disembarked. I recollected that, while preparations were making for their landing, the signal for battle was waving at a distance. It was justice to myself. ‘ O Fortune! I exclaimed, ‘ wilt thou abandon me? only five days, and —.’ I marched all night, I attacked Alexandria at early dawn, with 3000 men, worn out with fatigue, without cannon, without cartridges, and in five days I conquered Rosetta and Demanhour, so that I had already established myself in Egypt. In five days I knew the squadron would be safe from the attacks of the English, however formidable their numbers: so far, however, from that, it remained exposed to them all the rest of the month. It got a supply of rice for two months from Rosetta. The English were in sight, with a superior number of sail, for ten days, in this part of the sea: they gained the intelligence of our having taken possession of Egypt, and of our entry into Cairo. When Fortune saw that all her favors were useless, she abandoned our fleet to Fate.’

Ibrahim Bey fled towards Syria, where Buonaparte resolved to pursue him with vigor, knowing that he had concluded a treaty of peace between England and Turkey, and that he might expect to be attacked by these two powers, as well by land as by sea. All the ports of Egypt were blockaded, and he had received no intelligence from France since the affair at Aboukir. He therefore disposed his force, but he wished first to view the pyramids.

Being accompanied by many officers of his staff and others, he visited the grand pyramid of Cheops, attended by many muftis and imans. It was on this occasion that, beholding the aspect of these imperishable masses, he cried out from the top of these pyramids, ‘ Forty ages behold us!’

The following conversation passed in the presence of his suite, with the mufti and imans, Solyman, Ibrahim, and Mohamed. This Napoleon afterwards owned was ‘ quackery,’ but of a sublime order.

Buonaparte.—God is great and his works are marvellous. Behold a great work of men’s hands. What was the intention of him who built this great pyramid?

Solyman.—He was a powerful king of Egypt, whose name we believe was Cheops. He wished to hinder sacrilegious persons from violating the repose of his ashes.

Buonaparte.—The great Cyrus was buried in the open air, that his body might return to its elements: do you not think he acted wisest? Do you think so?

Solyman (bowing).—Glory to God, to whom all power is due!

Buonaparte.—Honor to Allah! Who is the calif who caused this pyramid to be opened, and troubled the ashes of the dead?

Mohamed.—It is believed that it was Mahomet, the commander of believers, who reigned many ages ago at Bagdat. Others imagine it was the renowned Aaron Raschild (God pardon him!), who thought of finding hidden treasures. But when they had by his orders entered this apartment, tradition relates, they found nought but mummies, and this inscription on the wall: 'The wicked shall commit iniquity without fruit, but not without remorse.'

Buonaparte.—Bread obtained by the wicked by stealth shall fill his mouth with gravel.

Mahomed (bowing).—It is the essence of wisdom.

Buonaparte.—Glory to Allah! there is no other God but God. Mahomet is his prophet, and I am one of his friends.

Solyman.—The blessings of peace and health to him, sent from God; and also to you, invincible general, favorite of Mahomet.

Buonaparte.—Mufti, I thank you: the divine Koran is the delight of my mind, and the attention of my eyes. I love the prophet, and I intend before long to go to see and honor his tomb in the sacred city; but my mission is previously to exterminate the Mamelukes.

Ibrahim.—May the angels of victory sweep away the dust in your way, and cover you with their wings. The Mameluke has deserved death.

Buonaparte.—He has been struck and delivered up to the black angels, Moukir and Quaki. God, on whom all depend, has commanded his dominion to be destroyed.

Solyman.—He extended the hand of rapine over the lands, the harvests, and horses of Egypt.

Buonaparte.—And also over the most beautiful slaves, very holy mufti. Allah has dried up and withered his hand. If Egypt is his farm, let him show the deed that God has granted it to him; but God is just and merciful to his people.

Ibrahim.—O thou bravest man amongst the children of Issa (Jesus Christ), Allah will command the exterminating angel to follow you, to deliver the land of Egypt.

Buonaparte.—This land was delivered up to twenty-four oppressors, all rebels to the grand seignor, our ally (may God encompass him with glory!), and to 10,000 slaves assembled from Circassia and Georgia. Adriel, the angel of death, has breathed on them; we are come, and they have disappeared.

Mohamed.—Noble successor of Scander (Alexander) honor be to your invincible arms, and to the unexpected thunder, which issues from the midst of your warriors on horseback (the flying artillery).

Buonaparte.—Believest thou this thunder is the work of the children of men? Dost thou believe it? Allah has placed it in my hands by the genius of war.

Ibrahim.—We acknowledge, in your works, Allah who sends you. Would you be a conqueror if Allah had not permitted it? The Delta

and all the neighbouring countries resound with thy miracles.

Buonaparte.—A heavenly car (the balloon) shall ascend by my orders into the regions of the clouds, and lightning shall descend on the earth along a metal wire (the electric conductor) as soon as I shall command it.

Solyman.—And the great serpent that issued out from the foot of Pompey's pillar on the day of your triumphal entry into Scandarich (Alexandria), and which remained dried up at the base of the pillar; was not that another wonder performed by your hand?

Buonaparte.—Lights of the age! you are destined to see still greater wonders, for the days of regeneration are arrived.

Ibrahim.—The divine Unity regards you with an eye of love, adorer of Issa; and makes you to be the support and prop of the children of the prophet.

Buonaparte.—Has not Mahomet said, 'Every man who adores God and performs good actions (whatever his religion may be) shall be saved?'

Solyman, Mohamed, Ibrahim (bowing).—He has said it.

Buonaparte.—And if I have (by order from on high) humbled the pride of the vicar of Issa (the pope) by diminishing his terrestrial possessions, to heap on him heavenly ones; tell me, was it not to render glory to God, whose mercy is infinite?

Mohamed (with a timid air).—The mufti of Rome was rich and powerful, but we are very poor muftis.

Buonaparte.—I know it, fear not; you have been weighed in the balance of Belshazzar, and you have been found light. Does not this pyramid then contain any treasure known to you?

Solyman (his hands on his breast).—None, lord; we swear it by the holy city of Mecca.

Buonaparte.—Misfortune, and thrice misfortune, wait on those who seek after perishable riches, and who covet gold and silver like clay.

Solyman.—Thou hast spared the vicar of Issa, and treated him with clemency and kindness.

Buonaparte.—He was an old man I honored (may God fulfil his wishes, when they are regulated by justice and truth!), but he was wrong in condemning to eternal flames all Mussulmen, and God forbids all intolerance.

Ibrahim.—Glory to Allah and his prophet, who has sent thee in the midst of us, to rekindle the faith of the weak, and open again to the faithful the gates of the seventh heaven.

Buonaparte.—You have said well, too zealous muftis! Be faithful to Allah, the sovereign master of the seven wonderful heavens; to Mahomet his vizier, who traverses through all these heavens in a night. Be the friends of France, and Allah, Mahomet, and the French will reward you.

Ibrahim.—May the prophet himself cause you to sit on his left hand, in the day of resurrection, after the third sound of the trumpet.

Buonaparte.—Let him who hath ears to understand, hear! The hour of political resurrection is come, for all the people who groaned under oppression. Muftis, imams, nullaks, der-viscs, calenders, instruct the people of Egypt;

encourage them to join themselves to us, to annihilate the beys and Mamelukes. Favor the commerce of France in your countries, and their enterprises to arrive from hence in the ancient country of Brama. Offer them a staple in your ports, and drive far from you the islanders of Albion, cursed amongst the children of Issa, such is the will of Mahomet. The treasures, industry, and friendship of the French, shall be your portion, until you ascend to the seventh heaven, and that seated by the sides of hours, with black eyes, always young, and always virgins, you repose under the shade of the laba, whose branches will spontaneously offer to true Musúlmén every thing they can possibly wish for.

Solyman (bowing).—You have spoken as the wisest of the mullaks: we place confidence and faith in thee and thy words; we will serve thy cause, and God hears us.

Buonaparte.—God is great, and his works are marvellous; his peace be on you, most holy muftis.

As soon as convenient, after this interview, Buonaparte organised the government of Cairo, established there an institute, a library, and a laboratory for chemistry. Order and quiet reigned for a time throughout the city, when all on a sudden a terrible and unforeseen insurrection burst forth; general Dupuy was killed, the house of Caffarelli was pillaged, his guards and his agents all strangled, and every Frenchman who came in the way of the rebels experienced the same fate. The Arabs presented themselves at the gate of the city, the generale was beat, the French were immediately in arms, and formed themselves in moving columns: they attacked the insurgents, made amongst them a horrible slaughter, and gained a complete victory. Buonaparte then put a stop to the sanguinary conflict, and addressed the following proclamation to the inhabitants of Cairo:

‘Those men, whom ye have suffered yourselves to be deluded by; those victims to their obstinacy, are no more. God commands us to be merciful, and I have been merciful towards you.

‘I have only been wroth with you, because you rebelled against me. I deprived you of your divan: I this day restore it to you. Sche-rifs, imans, expounders of the law of Mahomet, let the people know that those who nourish enmity in their hearts against me, shall have no peace in this world, nor in that to come. Is there any man blind enough not to see that all I undertake is predestinated? Is there any one who is such an infidel as to conceive a doubt against that belief which teaches us that predestination governs this vast universe, and that all is subject to the empire of Fate? Let the people know, that, ever since the beginning of the world, it was written, that after having destroyed the enemies of Ismaelism, and broken in pieces the cross, I should arrive from the utmost part of the west to fulfil my appointed task? Open the Koran, and prove to the multitude, by more than twenty passages in that sacred book, that what has now happened, and what is yet to come to pass, by me, is there foretold.

‘Let those who are only prevented from exe-

crating us by the terror of our arms, change their sentiments; for, in calling down the anger of heaven upon us, they are only pronouncing their own destruction. Let the true believers lift up their prayers, unceasingly, for the success of our arms. I can penetrate into the secret recesses of your hearts. Nothing is hid from me; I am acquainted with those thoughts to which utterance never was yet given. A day will come, when all the world will clearly see that I have been acting by the commands of heaven, and that all human efforts can avail nothing against me. Blessed are the faithful who will be the first to follow me!’

This proclamation produced such an effect that a hymn to the praise of the French general was sung in the principal mosque of Cairo. One of the strophes contains the following sentences:

‘The warriors of the West are worshippers of the mighty Allah. They honor the laws of his prophet, they love and cherish the human race, and succour the oppressed. Therefore is the favored son of victory the chosen of the mighty Allah! Therefore are the warriors of the West protected by the invincible shield of the mighty Allah!’

On the 26th of December, 1798, Buonaparte arrived at Suez; the following day was spent in viewing the town and coast, and ordering such works and fortifications as he deemed necessary for their defence. On the 28th of December he passed the Red Sea at a ford near Suez, which is practicable at low water, and proceeded to the fountains of Moses, about three leagues and a half from Suez, in Asia; these fountains are formed by five springs, which rise from the tops of low sand-hills; the water is sweet, but a little brackish; near them were the remains of a small modern aqueduct, which conveyed the water to cisterns near the sea-shore. Buonaparte returned the same evening to Suez, but, it being high water, he was obliged to ascend to the extremity of the Red Sea. This route was the more tedious, from the guide having lost his way in the marshes, where they were sometimes up to the middle in water. Thus, like a second Pharaoh, he narrowly escaped drowning. ‘This,’ said he, ‘would have furnished all the preachers of Christianity with a splendid text against me.’ On reaching the Arabian coast he received a deputation of the Cenobite monks of mount Sinai, who came to implore his protection, and to request him to inscribe his name on the ancient register of their charters, with which he complied.

About the 17th of March, 1799, Napoleon, after having defeated the Mamelukes, and taken possession of Alexandria and Cairo, led a detachment of 12,000 men into Palestine, with the intention, it has been said, of taking possession of Jerusalem, and restoring the Jews. Acre is a small town on the sea-coast, thirty-seven miles north of Jerusalem. To this town, which was wretchedly fortified, and garrisoned only by a few Turks, he laid siege in form, and the governor would have surrendered at discretion, had he not been assisted by Sir Sidney Smith, and several ships of war, to make a vigorous resist-

ance. By the persevering valor of the British, and the brute force of their semi-barbarous allies, Buonaparte was detained before Acre sixty-nine days. Foiled in eleven different attempts to carry the place by assault, and losing upon an average sixty men a day, he was ultimately obliged to retreat.

At this siege a shell, thrown by Sir Sidney Smith, fell close at Buonaparte's feet. Two soldiers who were near him seized and closely embraced him before and behind, making a rampart of their bodies against the effects of the shell, which exploded and overwhelmed them all with sand. Neither of these soldiers were wounded, but they sunk into the hole occasioned by the explosion. He made them both officers.

On the 17th of May Napoleon addressed the following historical proclamation to the French army:

'Soldiers! You have traversed the desert which separates Africa from Asia with more rapidity than the army of the Arabs. The army which marched to invade Egypt is annihilated; its campaign equipage, its baggage, its stores, and its camels. You have taken all the strong places which defend the wells of the forest. You have scattered over the plains of Mount Tabor that cloud of men that came from every part of Asia, with the hope of plundering Egypt. The thirty sail which you have seen arrive before Acre, but twelve days ago, brought that army that was to lay siege to Alexandria. Compelled to retreat to Acre, they met the end which fate had assigned them. A part of the enemy's colors will grace your entry into Egypt. In short, after having with only a handful of men carried on the war for three months in the very heart of Syria, taken forty field pieces, fifty colors, made 6000 prisoners, razed the fortifications of Gazah, Jaffa, Caiffa, and Acre, we are going to return to Egypt. It is now the time for me to go on shore.

'Yet a few days longer, and you may hope to seize the Pacha himself, in the midst of his palace; but just now the taking of the castle of Acre is not worth the loss of our time: those brave men also who might chance to fall are now wanted to execute operations infinitely more essential.

'Soldiers! We have a course to pursue replete with peril and fatigue. After we shall have reduced the East to a state incapable of acting against us in this campaign, we may perhaps find it necessary to push our conquests to a part of the West. You will there find fresh opportunities of acquiring glory; and, if amongst so many battles, each day should be marked with the death of a hero, new warriors will spring up, and enrol themselves amongst those few who derive enthusiasm from danger, in the cause of freedom.'

The army having crossed the desert, by the rapidity of its movements had certainly disconcerted the plans of its Asiatic enemies. It had scattered on the plains of Edredon and Mount Tabor 85,000 horse and 10,000 foot. The vainglorious hope of seizing Dgezzar Pacha in his palace at Acre did not impose upon Buonaparte.

While preparations were making for a return to Egypt, the army withstood several sorties of the enemy; but at length, finding it requisite to raise the siege, the general-in-chief, according to what he wrote to the directory, erected a battery of twenty-four guns and mortars, which kept up a constant fire for seventy hours, razed the houses of Dgezzar level with the ground, and destroyed the principal monuments: he added, that the whole town was a constant blaze of fire.

After experiencing fatigues almost incredible, he gave orders for the departure of the army, and on the 15th of June they arrived at Cairo, in 'parade order.'

Sidney Smith, Buonaparte acknowledged, was a brave officer: he displayed considerable ability in the treaty of El Arish, for the evacuation of Egypt by the French. He took advantage of the discontent which prevailed among the French troops at being so long away from France, and other circumstances. He also showed great honor in sending immediately to Kleber the refusal of lord Keith to ratify the treaty, which saved the French army; if he had concealed that fact seven or eight days longer, Cairo would have been given up to the Turks, and the French army necessarily obliged to surrender to the English. He also showed great humanity and honor in all his proceedings towards the French who fell into his hands. He landed at Havre on account of some foolish bet that he had made, according to some, to go to the theatre; others said it was to obtain some information: however, he was arrested, and confined in the temple. Shortly after Buonaparte returned from Italy he wrote to him, requesting his intercession in his behalf: but, under the circumstances in which he was taken, Napoleon could do nothing for him. Buonaparte added, 'He is active, intelligent, intriguing, and indefatigable; but I believe that he is mezzo pazzo.'

About the middle of August, after his return to Cairo, Buonaparte learned the disembarkation of the Turks at Aboukir, the surrender of the place, and the dangerous situation of Alexandria. Mustapha Pacha, and about 18,000 men, were intrenching themselves in the peninsula of Aboukir, where a great number of cannon had already been disembarked. The obstinacy of the Turkish troops, in defending themselves, was beyond description; and never was French valor put to so severe a test in that part of the world. At length the Turks, confounded and terror-struck, on finding their retreat cut off, beheld death on every side: the infantry charged them with the bayonet, the cavalry cut them down with the sabre; no alternative but the sea remained. 10,000 men committed themselves to the waves amidst showers of musquetry and grape-shot, and not one man was saved. Among the cannon taken, were two pieces presented to the grand seignior by the court of London.

On the landing of the Turks here, the French had fallen back to concentrate their forces. The pacha who commanded them was delighted: he mistook this movement for that of fear; and, on perceiving Murad Bey, he exclaimed, 'So, these are your terrible French! See how they fly before me!'—'Pacha,' replied the indignant

Murad Bey, 'render thanks to the prophet; if they should return you will disappear before them like dust before the wind!' A prediction but too fatally verified.

Napoleon always shared the fatigues of the army; and their privations were sometimes so great that they were compelled to contend with each other for the smallest comforts. Once, in the deserts, the soldiers would scarcely allow the general to dip his hands in a muddy stream of water. Passing the ruins of Pelusium, almost suffocated with the heat, a soldier gave up to him a fragment of an ancient door-way, beneath which he contrived to shade his head for a few minutes; 'and this,' said Napoleon, 'was no trifling favor.'

The discontent of the French troops in Egypt, which was at times very high, was happily spent in jokes and sarcasms. This humor bears a Frenchman through a number of difficulties. General Caffarelli, supposed to have been one of the promoters of the expedition, was by no means liked. He had a wooden leg, having lost the other on the banks of the Rhine. Whenever the soldiers saw him hobbling along they would say, loud enough for him to hear, 'That fellow cares for nothing amongst us: he is certain, happen what may, to have one leg in France.'

In reference to the six or seven acres of land that Buonaparte had promised his troops on his departure from France; when they afterwards found themselves in the midst of the desert, surrounded by the boundless ocean of sand, they pretended to cheer one another with a view of it; they said their general 'had been very moderate in promising so little; he might have made us a more unlimited offer; we should not abuse his good nature.' On their first entering the desert, they called to one another to look at the six acres awarded to each of them by the government.

But, though the devotedness and attachment of the army of Egypt had evidently performed so much for their general-in-chief, we have his own authority for asserting, that no army was less fit for that quarter of the world. 'It would be difficult to describe the disgust, the discontent, the melancholy, the despair of that army, on its first arrival in Egypt. Buonaparte saw two dragoons rush out of the ranks, and throw themselves into the Nile. Bertrand had seen the most distinguished generals, such as Lannes and Murat, in momentary fits of rage, throw their laced hats in the sand, and trample on them. 'This army,' said Napoleon, 'had been satiated with wealth, rank, pleasure, and consideration; they were not fit for the deserts and fatigues of Egypt.' More than one conspiracy was formed to carry away the flags from Alexandria, and other things of the same sort. The influence, the character, and the glory of the general, could alone restrain the troops. One day, Napoleon, losing his temper in his turn, rushed among a group of discontented generals, and, addressing himself to the tallest, said, 'You have held mutinous language; take care that I don't fulfil my duty; your five foot ten should not save you from being shot in a couple of hours.'

The remains of this army, two years after

Napoleon had left Egypt, notwithstanding climate, and the almost incessant combats in which they had been engaged, during the space of seven or eight and twenty months, were still so numerous, when they defiled as prisoners before the British army, as to excite considerable surprise.

La Cases says, the French force, at its landing in Egypt, amounted to 30,000 men: it was augmented by the wrecks of the naval battle of the Nile, and some partial arrivals from France, and yet the total loss of the army amounted only to 8915; viz.—

Killed in battle	3614
Died of their wounds	854
Died through various accidents	290
Died from common disorders	2468
Died from the pestilential fever	1639

Total 8915

Feeling no doubt the rashness of his eastern enterprise, his troops baffled, himself little better than a prisoner, and in danger of falling the victim of the first ebullition of discontent, Buonaparte turned his eyes to Europe, and to France. He saw in the disturbances which shook the latter the natural field of his ambition; and with his characteristic heartlessness he abandoned his soldiers; but not without soothing them by the following hypocritical proclamation:—

'Soldiers! The affairs of Europe recall me to France. I leave the command of the army to general Kleber. The army shall soon have intelligence of me. It is painful to leave soldiers to whom I am so much attached; but it shall not be for long. The general whom I have left with them possesses both my confidence and that of government.'

On the 23rd of August, 1799, accompanied by Berthier, Murat, Lannes, and Marmont, he embarked on board the frigates La Muiron and La Carere. An English cutter was in sight of the two frigates; the officers who accompanied him drew the most dismal presages from this circumstance, and said it would be difficult to escape the vigilance of the enemy.—'True!' exclaimed Buonaparte, 'but we shall arrive—Fortune has never abandoned us; we shall arrive in spite of the English.' They set sail in the night; and Gantheaume, perfect master of his manœuvres, ranged along the coast of Africa, choosing a longer but more certain route of navigation.

On the 30th of September, 1799, the two frigates entered the Gulf of Ajaccio. Whilst lying to, for a boat they had sent in, a sudden squall obliged them to come to anchor in the gulf, in the native country of Buonaparte. He was thought to have been dead; and, when chance thus brought him home, nothing could be more touching than the reception he experienced: the batteries saluted on all sides; the whole population rushed to the boats, and surrounded the French frigates; the public enthusiasm had even triumphed over the fear of infection, and the vessels were immediately boarded by crowds, crying out to Buonaparte, 'It is we that have the plague, and must owe our deliverance to you.' Here Buonaparte learned that the fruits of all

his triumphant victories in Italy had been lost in two battles; that the Russians were upon the French frontiers, and that confusion and dismay reigned in the interior.

On the 8th of October, being in sight of the coast of France, they perceived an English fleet of from eight to ten sail. Admiral Gantheaume was desirous to tack about immediately, and return to Corsica.—‘No, no,’ said Buonaparte, ‘that manœuvre would conduct us to England; and my will is to arrive in France.’ On the 9th of October, 1799, Buonaparte disembarked near Frejus, in the South of France, after a surprising voyage of forty-one days, and upon a sea covered with the enemy’s ships. Here he landed without having performed the customary duty of quarantine, and arrived at Paris on the 16th of October. Nothing could have been more unexpected than this arrival. From the first moment it occurred, the news of it spread with the rapidity of lightning. Scarcely had the flag of a commander-in-chief been displayed, when the shore about Frejus was covered with people, who, in accents of the most intense desire, exclaimed, ‘Buonaparte!’ France herself poured forth her thousands before him who was destined to restore her splendor, and already from her frontiers anticipated from him the revenge of Marengo.

On his return Buonaparte found the government enfeebled to the impotence of childhood; the directors, contemptible in their personal characters, had alienated all parties; the Russians had destroyed the elite of the French army in Italy, and France was in a state of mixed indignation and terror, ripe for any violence or any change. Now was the time for a generous and noble patriotism in the prince of the chief of armies, and the idol of the nation, to establish social order on the basis of rational liberty. Napoleon held in his simple grasp the destinies of his country—henceforth he is to be her benefactor or her scourge—her noble liberator or her remorseless oppressor. His previous character but too well argued the part he would act. He could not be a Washington; and, if a tyrant, his tyranny would partake of all the energy of his grasping and ambitious spirit. The story of his rise to supreme power is soon told. He took advantage of the state of hostility which existed between the two legislative bodies, the Council of Ancients and the council of Five Hundred. He intrigued with Sieyes, and flattered him by allowing him to prepare a new constitution which it never was his intention to adopt. Having secured the Council of Ancients, and many of the members of the Council of Five Hundred, of which his brother Lucien was president; having induced by his agents both councils to change their usual place of meeting to St. Cloud, where they would be unawed and unmolested by the Parisians, often so formidable to the national assembly and convention; and, above all, having obtained an edict from the council of ancients, delegating to general Buonaparte full power to see the measure of their removal carried into effect; and vesting him, for that purpose, with the military command of the department; Buonaparte proceeded to take the decisive step; which, had it failed, would have hurried him to

the guillotine, but which, proving successful, raised him to imperial greatness.

On the morning of the eventful day which commenced this sudden and perfect revolution—a revolution effected without murders or massacres, Buonaparte sallied forth on horseback at the head of a gallant cavalcade of officers. His first movement was to assume the command of the three regiments of cavalry already drawn up in the Champs Elysées and to lead them to the Thuilleries, where the council of ancients expected him. He entered their hall surrounded by his military staff, and by those other generals whose names carried the memory of so many victories. ‘You are the wisdom of the nation,’ he said to the council, ‘I come, surrounded by the generals of the republic, to promise you their support. I name Lefebvre my lieutenant. Let us not lose time looking for precedents: nothing in history ever resembled the end of the eighteenth century—nothing in the eighteenth century resembled this moment: your wisdom has devised the necessary measure—our arms shall put it into execution.’ He announced to the military the will of the council, and the command with which they had entrusted him, and it was received with loud shouts.

In the mean while the three directors Barras, Gohier, and Moulins, who were not in the secret of the morning, began too late to take the alarm. Moulins proposed to send a battalion to surround the house of Buonaparte, and make prisoner the general and whomsoever else they found there. But they had no longer the least influence over the soldiery, and had the mortification to see their own personal guard, when summoned by an aide-de-camp of Buonaparte, march away to join the forces which he commanded, and leave them defenceless. Barras sent his secretary Bottot to expostulate with Buonaparte; the general received him with great haughtiness, and publicly, before a large group of officers and soldiers, upbraided him with the reverses of the country; not in the tone of an ordinary citizen, possessing but his own individual interest in the fate of a great nation, but like a prince who, returning from a distant expedition, finds that in his absence his deputies have abused their trust, and misruled his dominions—what have you done, he said, for that fine France which I left you in such a brilliant condition? I left you peace; I have found war. I left you the wealth of Italy; I have found taxation and misery—where are the 100,000 Frenchmen whom I have known, all of them my companions in glory—they are dead.’ It was plain, that even now when his enterprise was but commenced, Buonaparte had already assumed that tone which seemed to account every one answerable to him for deficiencies in the public service, and he himself responsible to no one.

Barras overwhelmed and stunned, and afraid perhaps of impeachment for his alleged peculations, belied the courage which he was once supposed to possess, and submitted in the most abject terms to the will of the victor. He sent in his resignation, in which he states ‘that the weal of the republic, and his zeal for liberty alone, could have ever induced him to undertake

the burden of a public office; and that, seeing the destinies of the republic were now in the custody of her youthful and invincible general, he gladly resigned his authority.' He left Paris for his country seat, accompanied by a guard of cavalry, which Buonaparte ordered to attend him, as much, perhaps, to watch his motions, as to do him honor, though the last was the ostensible reason. His colleagues Gohier and Moulins also resigned their office; Sieyes and Ducos had already set the example; and thus the whole constitutional executive council was dissolved, while the real power was vested in Buonaparte's single person. Cambaceres, minister of justice, and Fouches, minister of police, with all the rest of the administration, acknowledged his authority accordingly, and he was thus placed in full possession, as well of the civil as the military power. The council of Five Hundred or rather the republican majority of that body, showed a more stubborn temper; and if, instead of resigning, Barras, Gohier, and Moulins, had united themselves to its leaders, they might perhaps have given trouble to Buonaparte, successful as he had hitherto been. The hostile council only met at ten o'clock on that memorable day, when they received, to their surprise, the message intimating that the council of ancients had changed the place of meeting from Paris to St. Cloud, and thus removed their debates from the neighbourhood of the populace, over whom the old jacobinical principles might have retained influence. The laws as they stood afforded the young council no means of evading compliance, and they accordingly adjourned to meet the next day at St. Cloud, with unabated resolution to maintain the democratical part of the constitution. They separated amid shouts of long live the republic and the constitution, which were echoed by the galleries. The tricoteuses and other more zealous attendants in their debates resolved to transfer themselves to St. Cloud also, and appeared there in considerable numbers on the ensuing day, when it was evident the enterprise of Sieyes and of Buonaparte must be either perfected or abandoned. The contending parties held counsel all the evening, and deep into the night, to prepare for the final contest on the morrow. Sieyes advised that forty leaders of the opposition should be arrested, but Buonaparte esteemed himself strong enough to obtain a decisive victory without resorting to any such obnoxious violence: they adjusted their plan of operations in both councils, and agreed that the government to be established should be provisionally entrusted to three consuls, Buonaparte, Sieyes, and Ducos. Proper arrangements were made of the armed force at St. Cloud, and the command was confided to the zeal and fidelity of Murat. Buonaparte used some influence to prevent Bernadotte, Jourdan, and Angereau from attending at St. Cloud the next day, as he did not expect them to take his part in the approaching crisis. The last of these seemed rather lurt at the want of confidence which this caution implied, and said, What, general, dare you not trust your own little Angereau? He went to St. Cloud accordingly.

Some preparations were necessary to put the

palace of St. Cloud in order to receive the two councils; the orangerie being assigned to the council of Five Hundred, the gallery of Mars to that of the ancients. In the council of ancients the modérés, having the majority, were prepared to carry forward and complete their measures for a change of government and constitution. But the minority having rallied, after the surprise of the preceding day, were neither silent nor passive. The commission of inspectors, whose duty it was to convene the council, were inculpated severely for having omitted to give information to several leading members of the minority, of the extraordinary convocation which took place at such an unwonted hour on the morning preceding. The propriety, nay, the legality, of the transferences of the legislative bodies to St. Cloud was also challenged: a sharp debate took place, which was terminated by the appearance of Napoleon, who entered the hall and harangued the members, by permission of the president. 'Citizens,' said he, 'you are placed upon a volcano. Let me tell you the truth with the frankness of a soldier; citizens, I was remaining tranquil with my family, when the commands of the council of ancients called me to arms. I collected my brave military companions, and brought forward the arms of the country in obedience to you who are the head. We are rewarded with calumny; they compare me to Cromwell, to Cæsar. Had I desired to usurp the supreme authority, I have had opportunities to do so before now. But I swear to you the country has not a more disinterested patriot. We are surrounded by dangers and by civil war. Let us not hazard the loss of those advantages for which we have made such sacrifices. Liberty and equality;' 'and the constitution,' exclaimed Singlet, a democratic member, interrupting a speech which seemed to be designedly vague and inexplicit. 'The constitution!' answered Buonaparte, giving way to a more natural expression of his feelings, and avowing his object more clearly than he had yet dared to do, 'it was violated on the 18th Fructidor, violated on the 22d Floreal, violated on the 30th Prairial. All parties have invoked it, all have disregarded it in their turn. It can be no longer a means of safety to any one, since it obtains the respect of no one. Since we cannot preserve the constitution, let us at least save liberty and equality, the foundations on which it is erected.' He went on in the same strain to assure them that, for the safety of the republic, he relied only on the wisdom and power of the council of ancients, since in the council of Five Hundred were found those men who desired to bring back the convention, with its revolutionary committees, its scaffolds, its popular insurrections. 'But I,' he said, 'will save you from such horrors—I and my brave comrades at arms, whose swords and caps I see at the door of the hall; and, if any hired orator shall talk of outlawry, I will appeal to the valor of my comrades, with whom I have fought and conquered for liberty.'

The assembly invited the general to detail the particulars of the conspiracy to which he had alluded; but he confined himself to a reference to the testimony of Sieyes and Ducos, and again

reiterating that the constitution could not save the country, and inviting the council of ancients to adopt some course which might enable them to do so, he left them amid cries of *Vive Buonaparte*, loudly echoed by the military in the court yard, to try the effect of his eloquence on the more unmanageable council of Five Hundred. The deputies of the younger council, having found the place designed for their meeting filled with workmen, were for some time in a situation which seemed to resemble the predicament of the national assembly at Versailles, when they took refuge in a tennis court. The recollection was of such a nature as inflamed and animated their resolution, and they entered the Orangerie, when at length admitted, in no good humor with the council of ancients or with Buonaparte. Proposals of accommodation had been circulated among them ineffectually. They would have admitted Buonaparte into the Directory, but refused to consent to any radical change in the constitution of the year three. The debate of the day, remarkable as the last in which the republican party enjoyed the full freedom of speech in France, was opened on the 19th Brumaire, at two o'clock, Lucien Buonaparte being president. Gaudier, a member of the moderate party, began by moving that a committee of seven members should be formed, to report upon the state of the republic; and that measures should be taken for opening a correspondence with the council of ancients. He was interrupted by exclamations and clamor on the part of the majority. The constitution; the constitution, or death! was echoed and reechoed on every side. 'Bayonets frighten us not,' said Debrel, 'we are free men.' 'Down with the dictatorship; no dictators,' cried other members.

Lucien in vain endeavoured to restore order; Gaudin was dragged from the tribune; the voice of other moderates was overpowered by clamor, never had the party of democracy shown itself fiercer or more tenacious than when about to receive the death blow. 'Let us swear to preserve the constitution of the year three,' exclaimed Debrel, and the applause which followed the proposition was so general that it silenced all resistance. Even the members of the moderate party, nay, even Lucien Buonaparte himself, were compelled to take the oath of fidelity to the constitution, which he and they were leagued to destroy. 'The oath you have just taken,' said Bigonnet, 'will occupy a place in the annals of history, beside the celebrated vow taken in the tennis court. The one was the foundation of liberty, the other shall consolidate the structure.' In the midst of this fermentation the letter containing the resignation of Barras was read, and received with marks of contempt, as the act of a soldier deserting his post in the time of danger. The moderate party seemed silenced, overpowered, and on the point of coalescing with the great majority of the council, when the clash of arms was heard at the entrance of the apartment. All eyes were turned to that quarter. Bayonets, drawn sabres, the plumed hats of general officers and aides-de-camp, and the caps of grenadiers, were visible without, while Napoleon entered the orangeie, attended by

four grenadiers belonging to the constitutional guard of the councils. The soldiers remained at the bottom of the hall, while he advanced with a measured step and uncovered, about one-third up the room.

He was received with loud murmurs. 'What drawn weapons, armed men, soldiers in the sanctuary of the laws!' exclaimed the members, whose courage seemed to rise against the display of force with which they were menaced. All the deputies rose, some rushed on Buonaparte, and seized him by the collar, others called out 'outlawry, outlawry; let him be proclaimed a traitor.' It is said that Aréna, a native of Corsica like himself, aimed a dagger at his breast, which was only averted by the interposition of one of the grenadiers. The fact seems extremely doubtful, though it is certain that Buonaparte was seized by two or three members, while others exclaimed 'Was it for this you gained so many victories?' and loaded him with reproaches. At this crisis a party of grenadiers rushed into the hall, with drawn swords, and extricated Buonaparte from the deputies, bore him off in their arms breathless with the scuffle.

The council remained in the highest state of commotion, the general voice accusing Buonaparte of having usurped the supreme authority, calling for a sentence of outlawry, or demanding that he should be brought to the bar. Can you ask me to put the outlawry of my own brother to the vote? said Lucien. But this appeal to his personal situation and feelings made no impression upon the assembly, who continued clamorously to demand the question. At length Lucien flung on the desk his hat, scarf, and other parts of his official dress. 'Let me be rather heard as the advocate of him whom you falsely and rashly accuse.' But his request only added to the tumult. At this moment a small body of grenadiers, sent by Napoleon to his brother's assistance, marched into the hall. They were at first received with applause; for the council, accustomed to see the triumph of democratical opinions among the military, did not doubt that they were deserting their general to range themselves on the side of the deputies. Their appearance was but momentary; they instantly left the hall, carrying Lucien in the centre of the detachment. Matters were now come to extremity on both sides. The council, thrown into the greatest disorder by these repeated military incursions, remained in violent agitation, furious against Buonaparte, but without the calmness necessary to adopt decisive measures. Meantime the sight of Napoleon, almost breathless, and bearing marks of personal violence, excited to the highest the indignation of the military. In broken words he told them that, when he wished to show them the road to lead the country to victory and fame, 'they had answered him with daggers.'

The cries of resentment of the soldiery were augmented, when the party sent to extricate the president brought him to the ranks as to a sanctuary. Lucien, who seconded his brother admirably, or rather who led the way in this perilous adventure, mounted on horseback instantly, and called out in a voice naturally deep

and sonorous, 'General, and you soldiers! the president of the council of five hundred proclaims to you that factious men, with drawn daggers, have interrupted the deliberations of the assembly; he authorises you to employ force against these disturbers; the assembly of five hundred is dissolved.'

Murat, deputed by Buonaparte to execute the commands of Lucien, entered the orangerie, with drums beating, at the head of a detachment with fixed bayonets. He summoned the deputies to disperse on their peril, while an officer of the constitutional guard called out he could be no longer answerable for their safety. Cries of fear became now mingled with vociferations of abhorrence, and shouts of 'Vive la Republique.' An officer then mounted the president's seat, and summoned the representatives to retire. 'The general,' said he, 'has given orders.' Some of the deputies and spectators began now to leave the hall; the greater part continued firm, and sustained the shouts by which they reproached this military intrusion. The drums at length struck up, and drowned further remonstrance. 'Forward, grenadiers,' said the officer who commanded the party; they levelled their muskets and advanced, as if to the charge: the deputies seemed hitherto to have retained a lingering hope that their persons would be regarded as inviolable. They now fled on all sides, most of them jumping from the windows of the orangerie, and leaving behind them their official caps, scarfs, and gowns. In a very few minutes the apartments were entirely clear, and thus, furnishing at its conclusion a striking parallel to the scene which ended the long parliament of Charles I's. time, closed the last democratical assembly of France.

Thus was the constitution, which had been so often violated that it existed but in name, superseded to give place to the consulate. This office was sustained by three individuals, at the head of which was Buonaparte. Sieyes, finding that he had been made the dupe of the usurper, retired; the two other consuls were entirely subservient to the will of their master. It was in vain that those who were associated with him in subverting the government of the directory, essayed to lay restraints on the first consul. He indignantly repelled them. He held the sword; and with this not only intimidated the selfish, but awed and silenced the patriotic, who saw too plainly that it could only be wrested from him by renewing the horrors of the revolution. One of the first measures of Buonaparte for giving stability to his power was certainly a wise one, and was obviously dictated by his situation and character. Having seized the first dignity in the state by military force, and leaning on a devoted soldiery, he was under no necessity of binding himself to any of the parties which had distracted the country. Accordingly he adopted a system of comprehension and lenity, from which even the emigrants were not excluded, and had the satisfaction of seeing almost the whole talent which the revolution had quickened, leagued in the execution of his plans.

The very difficulties in which France was involved, at the time of his elevation, were the

means which his subtle and vigorous genius employed for the consolidation of his power. Had he found the country at peace, domestic intrigue would have gathered round him; and, as one fluctuation of party had lifted him up, the next might have buried him. But he returned at the moment when his ability was most essential to the state, and his laurels, already fading by time and absence, might be revived in still thicker verdure. The Austrian and Russian arms had stripped France of her Italian territories. Genoa, commanding the passes into the south of France, was on the point of surrender, and Provence must then be open to invasion. On the Rhine bloody battles had only taught the armies on both sides to dread the further conflict. The war languished; but the languor of Austria, habitual to her councils, was almost a proof of her success. The languor of France, famous for wild energy, bold hazard, and restless assaults, was a total change of character, and must indicate her weakness.

Buonaparte determined to arouse the world by a thunderclap. With an army of 60,000 men, he crossed the Alps in three divisions, himself leading 30,000 over the Great St. Bernard, by a route deemed impassable. This was one of the boldest and most unrivalled marches of modern war. In ancient war it has but one rival, that of Hannibal. The enterprise was one of fearful omen to Europe. It showed a power over the minds of his soldiers, the effects of which were not to be calculated; and the conquest of St. Bernard by a French army became the boast of the nation.

The manœuvre, in fact, was decisive of the war. Buonaparte was instantly upon the rear of the Austrians, exulting in the capture of Genoa, and anticipating the invasion of France. The sound of the French trumpets broke up all their dreams. To save their magazines they were compelled to hurry back into Italy. On the 14th of May, 1800, the battle of Marengo was fought, a memorable instance of the precariousness of military fortune. The French were beaten until late in the day. There were not 6000 men left standing to their arms in the whole line. Buonaparte was in retreat; the Austrian general had retired to his tent in the full assurance of victory. Before nightfall the Austrians were in full flight, with ruinous slaughter. On the next morning a capitulation gave Buonaparte the keys of all the Austrian forces in Piedmont, Lombardy, and the Legations.

The battle of Marengo was celebrated at Paris by a fête, on the 14th of July, and a singularly interesting spectacle was then presented. This was the remains of the 'wall of granite,' the consular guard, who, just as the games were about to begin, marched into the field. The sight of these soldiers covered with the dust of their march, embrowned with the sun, and with the marks of warlike toil on their brow, formed a scene so affecting, that the people could not be restrained by the guards from violating the limits, to take a nearer view of these interesting heroes. While the parade lasted, tolerably good order was preserved; but as they marched away, after their presentation to the first consul,

mothers, sisters, and friends, rushed forwards to embrace sons and brothers as they passed; and amidst this joy of tears, and the loud acclamations of the spectators, the whole order of the ceremony was disturbed; useless efforts were made to persuade the people to retire to their positions, and the intended games were wisely deferred. Napoleon's presence being necessary at Paris, he arrived there on the 2nd of July, in the middle of the night, and was received on the following day with every demonstration of joy.

It is a curious fact, that Napoleon most religiously preserved the drab great coat which he wore during his passage over Mount St. Gothard, previous to the memorable battle of Marengo. He was so much attached to this surtout, that he frequently wore it previous to decisive battles; and it is in this very habiliment that he is uniformly represented in the great pictures painted by his order, to immortalize his most celebrated triumphs.

Shortly after this battle, Napoleon says, Louis XVIII. wrote a letter to him, which was delivered by the abbé Montesquieu, in which he complained of his long delay in restoring him to his throne; that the happiness of France could never be complete without him; neither could the glory of the country be complete without Buonaparte; that one was as necessary to it as the other; and concluded by desiring Napoleon to choose whatever he thought proper, provided he was restored to his throne. Napoleon sent him back a very handsome answer, in which he stated that he was extremely sorry for the misfortunes of himself and family; that he was ready to do every thing in his power to relieve them, and would interest himself in providing a suitable income for them; but that he might abandon the thought of ever returning to France as a sovereign, as that could not be effected without marching over the bodies of 500,000 Frenchmen.

The overtures made to Napoleon by the count d'Artois possessed still more elegance and address. The bearer of these was the duchess de Guiche, a lady whose personal graces and fascinating manners were extremely prepossessing. She got access to madame Buonaparte, and breakfasted with her at Malmaison. Here the conversation turning on London, the emigrants, and the French princes, madame de Guiche mentioned her having been at the house of the count d'Artois, when some person asked him what he intended to do for the first consul, in the event of his restoring the Bourbons; and that the prince had replied, 'I would immediately make him constable of the kingdom, and every thing else he might choose. But even that would not be enough: we would raise on the carrousel a lofty and magnificent column, surmounted with a statue of Buonaparte crowning the Bourbons.'

As soon as Napoleon entered the apartment, Josephine eagerly repeated what the duchess had said. 'And did not you reply,' said her husband, 'that the corpse of the first consul would have been made the pedestal of the columns?' The charming duchess was still present; the beauties of her countenance, her eyes,

her words, were directed to the success of her mission. She observed also, that she was so much delighted, she did not know how she should ever be able sufficiently to acknowledge the favor which madame Buonaparte had procured her, of seeing and hearing so distinguished a man—so great a hero. All this was in vain: the duchess received orders that very night to quit Paris.

Relieved for a brief season from the fatigues and cares of war, the first consul, as an efficient means of spreading the toils of despotism around the people he was henceforth determined to govern, adopted and improved the detestable system of espionage, which, under the directory, had received a development worthy of those friends of freedom.

This system of espionage (we are proud that we have no English word for the infernal machine) had indeed been used under all tyrannies. But it wanted the craft of Fouché, and the energy of Buonaparte, to disclose all its powers. In the language of Sir Walter Scott, 'it spread through all the ramifications of society,' that is, every man of the least importance in the community had the eye of a spy upon him. He was watched at home as well as abroad, in the boudoir and theatre, in the brothel and gaming house; and these last haunts furnished not a few ministers of the Argus-eyed police. There was an ear open through all France to catch the whispers of discontent; a power of evil, which aimed to rival, in omnipresence and invisibility, the benignant agency of the Deity. Of all instruments of tyranny, this is the most detestable; for it chills the freedom and warmth of social intercourse, locks up the heart, infects and darkens men's minds with mutual jealousies and fears, and reduces to system a wary dissimulation subversive of force and manliness of character. We find, however, some consolation in learning that tyrants are the prey of distrust, as well as the people over whom they set this cruel guard: that tyrants cannot confide in their own spies, but must keep watch over the machinery which we have described, lest it recoil upon themselves. Buonaparte at the head of an army is a dazzling spectacle; but Buonaparte heading a horde of spies, compelled to doubt and fear these base instruments of his power, compelled to divide them into bands, and to receive daily reports from each, so that by balancing them against each other, and sifting their testimony, he might gather the truth; Buonaparte, thus employed, is any thing but imposing.

Another means by which the first consul protected his power can excite no wonder. Free writing and despotism are such implacable foes, that we hardly think of blaming a tyrant for keeping no terms with the press. He cannot do it. He might as reasonably choose a volcano for the foundation of his throne. Necessity is laid upon him, unless he is in love with ruin, to check the bold and honest expression of thought. But the necessity is his own choice; and let infamy be that man's portion who seizes a power which he cannot sustain but by dooming the mind, through a vast empire, to slavery, and by turning the press, that great organ of truth, into

an instrument of public delusion and debasement. Other means employed by Buonaparte for building up and establishing his power we shall mention in the order of their occurrence.

France was now paramount on the continent, and Buonaparte was the head of France. Negotiations were slowly carried on between France and Austria, while the princes of the German confederation, finding themselves in a hopeless condition, sought an alliance with Buonaparte, and entered into separate treaties with him, without waiting the issue of the emperor's negotiations at Luneville.

To weaken the confederation still more the first consul availed himself of an expedient calculated to detach Russia from the allies. The emperor Paul had for more than a year solicited the British cabinet to consent to the exchange of Russian prisoners in France for a similar number of French detained in England, the refusal of which had raised that sovereign's resentment to the highest degree. Buonaparte, availing himself of this circumstance, collected between 9000 and 10,000 Russian prisoners in the northern departments of France, clothed them in their own proper uniform, equipped and armed them, and sent them home without being exchanged. Paul, already seduced by the military reputation of Buonaparte, was quite brought over by this specious act of generosity, and which in the end produced an alliance between them that eventually occasioned the assassination of the unfortunate Paul.

Great, however, as was the power and influence of Buonaparte, and though millions were devoted to his will, there were rancorous enemies lurking round him in the emissaries of the ex-nobles under the old regime, and the partizans of the Bourbons. The return of the emigrants to France, as we have noticed, had been facilitated in various ways by the liberal policy of the first consul; but, towards the close of the year 1800, their conspiracies gave the most unfavorable bias to this indulgence: we here allude to the explosion of the infernal machine on the evening of the 24th of December.

It now appears, from the Journal of the private life of Napoleon, that two infernal machines were constructed, and the contrivers of both discovered to Napoleon, but who, with his usual policy, kept the history of the first a profound secret. He did not like to divulge the numerous conspiracies of which he was the object.

The construction of the first of these infernal machines the emperor imputed to 100 furious jacobins, the real authors of the scenes of September and the 10th of August. To accomplish their purpose of getting rid of him, they invented a fifteen or sixteen pound howitzer, which, on being thrown into the carriage, would explode by its own concussion. To make their object more sure, they proposed to lay caltrops along a part of the road, which would impede the carriage and prevent the horses from moving on. The man who was to be employed in laying down the caltrops, entertaining some suspicions of the job, communicated his ideas to the police. The conspirators were soon traced, and were apprehended, near the Jardin des Plantes, in the act of

trying the effects of a machine, which made a terrible explosion. The first consul, for reasons aforesaid, did not give publicity to this event, but contented himself with imprisoning the criminals. He soon relaxed his orders for keeping them closely confined, and thus they were allowed to mingle with some royalists in the same prison, who were there for having attempted to assassinate him by means of air guns. These two parties formed an alliance, and the royalists transmitted to their friends out of prison the idea of the last infernal machine, which actually exploded on the 24th of December.

The account that Napoleon gave of this event stated, in substance, that on that evening he was much pressed to go to the Opera. He had been greatly occupied with business all the day, and in the evening found himself sleepy and tired. He threw himself on a sofa in his wife's room, and fell asleep. Josephine came down some time after, awoke him, and insisted he should go to the theatre. She wished him to do every thing to ingratiate himself with the people. Against his inclination he got up, went into his carriage, accompanied by Lasnes and Bessieres, but was so drowsy that he fell asleep in his coach, and continued so till the explosion took place, when he recollected experiencing a sensation as if the vehicle had been raised up, and was passing through a great body of water. The contrivers were a man named St. Regent; Imolan, a religious man, who afterwards went to America and became a priest; and some others. They procured a cart and a barrel, resembling that with which water is supplied in the streets of Paris, only with this exception, that the barrel was placed cross-ways. This, Imolan filled with gunpowder, and placed it and himself nearly in the turning of the street (St. Nicaise) through which the consul's carriage was to pass.

What saved Buonaparte was his wife's carriage being the same in appearance as his, and, as there was a guard of fifteen men to each, Imolan did not know which carriage Buonaparte was in, and was not certain he would be in either; to ascertain this he stepped forward to look into the carriage. One of the guards, a great tall strong fellow, impatient and angry at seeing a man stopping up the way and staring into the carriage, rode up and gave him a kick with his great boot, crying out, 'Get out of the way, pekin,' which knocked him down. Before he could get up the carriage had passed a little on, when Imolan, probably confused by his fall, not perceiving that the carriage had passed, exploded his machine between the two carriages. It killed the horse of one of the guards, wounded the rider, knocked down several houses, and killed and wounded about forty or fifty spectators, who were gazing to see the first consul pass. The police collected together all the remnants of the cart and the machine, and invited all the workmen in Paris to come and look at them. The pieces were recognised by several. One said, I made this, another that, and all agreed they had sold them to two men, who by their accent were Bas-Bretons, natives of Lower Brittany; but nothing more could be learned.

The sensation excited by the shock of this ex-

plosion, Napoleon afterwards acknowledged, awoke him from a dream that he was drowning in the Tagliamento, an event which must have left a very deep impression upon his mind. It was then some few years since he had passed the river Tagliamento in Italy, in his carriage, during the night. In the ardor of youth, and heedless of every obstacle, though he was attended by a hundred men, armed with poles and torches, his carriage was soon set on float. He for some time gave himself up for lost. So at the moment when he awoke on his way to the opera, in the midst of a conflagration, the carriage was lifted up, and the passage of the Tagliamento came fresh upon his memory. The illusion, however, was but short—'We are blown up!' exclaimed the first consul to Lasnes and Besieres, who were in the carriage with him. They proposed to make arrests, but he advised them not to be too hasty. He arrived in safety at the opera, and appeared as if nothing had happened.

Napoleon being asked, whilst at St. Helena, who the persons were that employed the contrivers of the infernal machine, said they were employed by the count D***, and sent over by Pitt in English ships, and furnished with English money. 'Although,' added he, 'your **** did not actually suborn them, they knew what they were going to execute, and furnished them with the means.' He did not believe that Louis XVIII. was privy to it.

This conspiracy enabled Buonaparte to overthrow the last remnant of Jacobins, to establish the law declaring an attempt on his life treason, thus assuming the rank of a king; and to appoint himself first consul for life.

Without a competitor on the land, he aspired to the dominion of the sea. But England was still irresistible in war. His subtle policy conceived her destruction therefore by peace. The fall of Egypt before the gallantry of the British troops removed the last source of contention; and on the 27th of March, 1802, after a five months' negotiation, the short-lived peace of Amiens was signed; England retaining none of her conquests but Ceylon and Trinidad. At the close of the year the expedition against the blacks of St. Domingo sailed from France. For this wanton aggression against the rights and liberties of a people who had achieved their own deliverance, and against a chief who had exhibited every great quality that ought to insure the respect and admiration of mankind, the first consul could never offer the shadow of a reason. We are not surprised that he should have felt his unavailing regrets in his exile: the measure he had meted to the unfortunate and unoffending Toussaint was measured to him again. The dangerous peace of Amiens, which if dexterously managed might have been fatal to England, the perfidy of the French ruler precipitately terminated. It was soon found that the system of Buonaparte was substantially aggression—conquest in peace, if he could accomplish it by the blackest perfidy—conquest in war, if he must use the sword. His first act was the seizure of Switzerland, and the assumption of its sovereignty, under the title of Grand Mediator of

the Helvetic republic! This was a direct violation of the spirit of the treaty. The next was an insolent demand of the admission of French spies, as commercial agents, into the British ports. A multitude of minor violations at length put the unwilling cabinet on its guard. The cession of Malta was justly delayed, on the ground that the treaty had been already impaired. Buonaparte sent for the British ambassador lord Whitworth, and poured out menaces against England. The ambassador still resisted the cession of Malta without a sufficient security that it would not be seized by France. He left Paris, and on the 18th of May, 1803, that war was declared which was once more to change the face of Europe.

During this short interval of peace Buonaparte advanced several steps in the way of preparation to the throne. As grand pacificator, the French people, grateful for the repose they had received at his hands, invested him with the chief magistracy for life, with the power of presenting his colleagues, and indeed of securing their election. It was also decreed that the first consul might name his successor, that he should have the power of pardoning in all cases, of making war and peace, and presenting to the senate the subjects on which they were permitted to deliberate, of suspending the functions of juries, of proclaiming departments out of the protection of the law, of determining what persons arrested in extraordinary cases were to be brought before the tribunals, and of dissolving the legislative body and the tribunate.

The first consul, further considering his authority incomplete whilst any power was left in the state that did not immediately emanate from himself, and ever anxious to aggrandise the army, now determined upon the formation of a military order of nobility, under the designation of the Legion of Honor. To this the legislature agreed, and that it should be composed of fifteen cohorts, and a council of administration. Each cohort was to consist of seven grand officers, twenty commandants, thirty subordinate officers, and 350 legionaries. The first consul was always to be chief of the legion, and of the council of administration, and the members were to be appointed for life. The pay of each grand officer was to be 5000 francs, and of each legionary 250. All military men who had received arms of honor were members, as well as those citizens who had rendered eminent services to the state in the late war, or who had caused the government to be respected. Joseph Buonaparte, the brother of the first consul, was elected grand master of this new order; and, the more fully to rivet the interest of the government, the members of the grand council of the legion of honor were appointed members of the senate. In fact, to depress the authority of the legislative body, founded, though imperfectly, on the principle of representation; and to exalt the senate, who depended chiefly on the choice and nomination of the first consul, were the principal objects of Napoleon, by which political liberty was in a great measure annihilated.

This acquisition of the consulship for life, and the terms obtained by the concordat with the pope, had filled the minds of the people at large

with sensations of pride and gratitude. A new pontiff had been invested with the purple as head of the Romish church, on the 13th of March, 1800: Chiaramonti, the pope elect, took the name of Pius VII., and owed his promotion in a great measure to the influence which the first consul had exercised in the conclave. It seemed that he was inclined to take the conduct of one of his predecessors, Benedict XIV., as the model for his own. He sent cardinal Gonsalvi into France, to negotiate a concordat upon bases a little less ultramontaine than those of the famous concordat agreed to by Francis I. and pope Leo X.

On the 15th of July, 1801, a convention was signed by Joseph Buonaparte, brother of the consul, and the two representatives of the holy see, cardinal Gonsalvi and Monsignor Spina archbishop of Corinth. This treaty, which had been kept secret by both parties, caused the re-opening of the churches, and was made public in Paris at the same time as the treaty of Amiens, being solemnly promulgated on Easter day, by sound of trumpets and several discharges of artillery. The pomp of such a religious ceremony in a city where nothing of the kind had been witnessed for many years, and the brilliant procession, in which the Pope's legate figured with the First Consul, collected innumerable spectators, who could not conceal the pleasure they felt in this partial restoration of the religion of their fathers.

Buonaparte considered the concordat thus extorted from the pope as a master stroke of policy. We confess we view it in a very different light. Our religious prejudices have no influence on our judgment of this measure: we view it now simply as a political device, and, in this character, it seems to us no proof of the sagacity of Buonaparte. It helps to confirm us in an impression which other parts of his history give us, that he did not understand the peculiar character of his age, and the peculiar and original policy which it demanded. He always used common-place means of power, although the unprecedented times in which he lived required a system which should combine untried resources, and touch new springs of action. Because old governments had found a convenient prop in religion, Napoleon imagined that it was a necessary appendage and support of his sway, and resolved to restore it. But at this moment there were no foundations in France for a religious establishment, which could give strength and a character of sacredness to the supreme power. There was comparatively no faith, no devout feeling, and still more no superstition, to supply the place of these. The time for the reaction of the religious principle had not yet arrived; and a more likely means of retarding it could hardly have been devised than the nursing care extended to the church by Buonaparte, the recent mussulman, the known despiser of the ancient faith, who had no worship at heart but the worship of himself.

Had the Pope never existed before, he should have been made for the occasion, was the speech of this political charlatan: as if religious opinion and feeling were things to be manufactured

by a consular decree. He congratulated himself on the terms which he exacted from the pope, and which had never been conceded to the most powerful monarchs, forgetting that his apparent success was the defeat of his plans; for just as far as he severed the church from the supreme pontiff, and placed himself conspicuously at its head, he destroyed the only connexion which could give it influence. Just so far as its power over opinion and conscience ceased it became a coarse instrument of state, contemned by the people, and serving only to demonstrate the aspiring views of its master. Accordingly the French bishops in general refused to hold their dignities under this new head, preferred exile to the sacrifice of the rights of the church, and left behind them a hearty abhorrence of the concordat among the more zealous members of their communion. Happy would it have been for Napoleon had he left the pope and the church to themselves. By occasionally recognising and employing, and then insulting and degrading the Roman pontiff, he exasperated a large part of Christendom, fastened on himself the brand of impiety, and awakened a religious hatred which contributed its full measure to his fall.

As another means employed by Buonaparte, for giving strength and honor to his government, we may name the grandeur of his public works, which he began in his consulate and continued after his accession to the imperial dignity. These dazzled France, and still impress travellers with admiration. Could we separate these from his history, and did no other indication of his character survive, we should undoubtedly honor him with the title of a beneficent sovereign; but, connected as they are, they do little or nothing to change our conceptions of him as an all-grasping usurper. Paris was the chief object of these labors; and surely we cannot wonder that he who aimed at universal dominion should strive to improve and adorn the metropolis of his empire. It is the practice of despots to be lavish of expense on the royal residence and the seat of government. Buonaparte had a special motive too for conciliating the vanity of the great city; for Paris is France, as has often been observed. Previous to his ascending the imperial throne, to display the rancor of his hatred to England, he vaped about invasion. He therefore marched the whole of his disposable force to the western coast and constructed flotillas for their embarkation. If he was in earnest with this project he betrayed the weakness of an idiot; and if he jested he paid dearly for his joke. Our people and our rulers were neither to be conquered nor alarmed.

Napoleon at the head of the government, and commanding in person the army of France, had now reached the moment when the crown hung within his grasp; the fruit, to use his early phrase, was ripe, and he plucked it with a bold hand. But one crime more was to prepare the way for perfect despotism. It was of the blackest atrocity, unparalleled by even the tyrant's plea, and less like an act of human policy or passion than a gloomy pledge to that tempter that was yet to exact the full penalty of his bond. It was intended as a means of removing what he felt to

be obstructions to his power and ambition,—by striking terror into the hearts of kings, and especially of awing into complete submission the remaining branches of the house of Bourbon. We refer to the murder of the duke d'Enghien. There were times when Buonaparte disclaimed the origination of this atrocious crime. But it bears internal marks of its author; the boldness, decision, and overpowering rapidity of the horrible transaction, point unerringly to the soul where it was conceived. We believe that one great recommendation of this murder was, that it would strike amazement and terror into France, and Europe, and show that he was prepared to shed any blood and to sweep before him any obstructions in his way to absolute power. Certain it is, that the open murder of the duke d'Enghien, and the justly suspected assassinations of Pichegru and Wright, did create a dread such as had not been felt before; and while, on previous occasions, some faint breathings of liberty were to be heard in the legislative bodies, only one voice, that of Carnot, was raised against investing Buonaparte with the imperial crown, and laying France an unprotected victim at his feet. The circumstances of this foul blot on the page of humanity will be found in detail in our article D'ENGHIEN: they are briefly these: The duke d'Enghien, the last descendant of the line of Condé, was seized in the neutral territory of Baden, was dragged to Paris, brought before a military commission at midnight without counsel, witness, or friend, condemned on a fictitious charge of conspiracy, and at six in the morning shot, and thrown into a hole in the fosse of the castle of Vincennes which had been dug for him before his trial.

Napoleon's hands were now, as he termed it, washed in the blood of the Bourbons; and they were but the fitter to grasp the sceptre that was to be dipped in the blood of universal Europe. On the 2nd of December he was crowned by pope Pius VII., himself laying the crown on his own brow and that of the empress, in haughty indication that its rights and maintenance existed in his own hands. On the 11th of April, 1805, he was crowned king of Italy at Milan. The assassination of the emperor Paul of Russia annihilated for a time all his prospects of empire in the east. But he did not despair of winning over Alexander to his schemes. His temporary success we all remember. Alexander, however, opened his eyes at a critical juncture, and saved his own throne while he contributed his glorious share in ridding Europe of a universal enemy.

The system adopted by the French emperor, soon after his elevation, was felt to be a declaration of war against mankind. In 1805 a coalition was formed by England, Austria, and Russia. They demanded of France the independence of Holland and Switzerland, the evacuation of Hanover and the north of Germany, the restoration of Piedmont to the king of Sardinia, and the withdrawing of the French armies from Italy. Those terms were haughtily answered by a decree calling out a conscription of 80,000 men, and the instant movement of the army from the camps of the Channel against Austria. The troops marched thirty miles a day,

while the enemy had calculated their advance at ten. The campaign was thus a surprise, the most decisive in the memory of man. The Austrian van of 20,000 men was surrounded and forced to lay down its arms at Ulm. Vienna, the reward of the victory, was entered in triumph by Napoleon on the 13th of November. Austria concentrated her last force with the Russians on the plains of Moravia. The allies and the French were equal in number, each about 75,000 men. Nothing shows more clearly the utter surprize of the Austrian government, by the promptitude of Napoleon, than the fact that the whole native force in this combat for existence was but 25,000. He attacked the allies at Austerlitz on the 2d of December, the anniversary of his coronation, broke through their line which had rashly attempted to outflank him, slew or took prisoners 20,000 men, and laid Austria at his mercy. The treaty of Presburg deprived her of the Tyrol and Vorarlberg, which were given to Bavaria, and of Venice which was united to the kingdom of Italy. The electors of Wirtemberg and Bavaria were made kings. Such was the first evidence of the imperial sword of Napoleon. An empire prostrated in a six months campaign and by a single battle.

The following characteristic extracts are taken from the history of this period.

As Napoleon was passing through a crowd of prisoners, an Austrian colonel expressed his astonishment to see the emperor of the French wet, covered with dirt, and as much or more fatigued than the meanest drummer in his army. An aide-de-camp present having explained to him what the Austrian officer had said, the emperor ordered this answer to be made: 'Your master wished to make me recollect that I was a soldier: I hope he will allow that the throne and the imperial purple have not made me forget my first profession.'

The evening before the surrender of Ulm Napoleon addressed the following proclamation to his army:—

'Soldiers! a month ago we were encamped on the shore of the ocean opposite to England; but an impious league compelled us to fly towards the Rhine. It is but a fortnight since we passed that river; and the Alps of Wirtemberg, the Necker, the Danube, and the Lech, those celebrated barriers, have not retarded our march a day, an hour, or an instant. Indignation against a prince whom we have twice seated on his throne, when it depended entirely on our pleasure to hurl him from it, supplied us with wings. The enemy's army, deceived by our manœuvres, and the rapidity of our movements, is completely turned. It now fights only for its safety. It would gladly embrace an opportunity of escaping, and returning home; but it is now too late: the fortifications erected at a great expense along the Iller, expecting we should advance through the avenues of the Black Forest, are become useless, since we advanced by the plains of Bavaria. Soldiers! but for the army which is now in front of you, we should have been in London; we should have avenged ourselves for six centuries of insults, and restored the freedom of the seas. But bear in mind to-morrow

that you are fighting against the allies of England, that you have to avenge yourselves of a perjured prince, whose own letters breathed nothing but peace, at the moment he was marching his army against our ally, who thought us cowardly enough to suppose we should tamely witness his passing of the Inn, his entrance into Munich, and his aggression upon the elector of Bavaria. He thought we were occupied elsewhere; let him for the third and last time learn, that we know how to be present in every place where the country has enemies to combat. Soldiers! to-morrow will be a hundred times more celebrated than the day of Marengo. I have placed the enemy in the same position. It is necessary that not a man of the enemy's army should escape; that government which has violated all its engagements shall first learn its catastrophe by your arrival under the walls of Vienna, when its conscience may tell it that it has betrayed both its solemn promises of peace and the first of the duties bequeathed by its ancestors, with the power of forming the rampart of Europe against the irruptions of the Cossacks. Soldiers! you have been engaged in the affairs of Wertingen and Gunsburgh. I am satisfied with your conduct. Every corps in the army will emulate you; and I shall be able to say to my people, 'Your emperor and your army have done their duty; perform yours; and the 200,000 conscripts whom I have summoned will hasten by forced marches to reinforce our second line.

'NAPOLEON, EMPEROR.'

On the night preceding the battle of Austerlitz Napoleon went on foot and incog. and visited all the posts, but was almost immediately recognised by the soldiers, who placed lighted straw upon long poles, and 80,000 men joined in saluting the emperor with acclamations; some to celebrate the anniversary of his coronation, others saying, that the army would to-morrow offer its bouquet to the emperor. One of the oldest grenadiers went up to him, and said, 'Sire, you need not expose yourself: I promise you, in the name of the grenadiers, that you shall have only to fight with your eyes, and that we will bring you to-morrow the colors and artillery of the Russian army, to celebrate the anniversary of your coronation.' The emperor said, on his return to his guard house, a miserable straw cabin without a roof, which the grenadiers had made for him—'This is the finest evening of my life; but I regret to think I shall lose a good number of these brave fellows. I feel, by the pain it gives me, that they are indeed my children, and I often reproached myself for this sentiment, for I fear it will terminate in rendering me unfit to carry on a war.'

On the return of a feverish peace, and when the sword was sheathed, Napoleon saw the fruit of victory, and felt that the true conquest was begun. No campaign, since that in which Cæsar decided the mastery of the Roman world, was ever followed by results so wide. The confederation of the Rhine was formed, and the title of emperor of Germany finally extinguished.

In the pride of conquest Napoleon took upon himself almost the name of an earthly provi-

dence. By a stroke of his pen he alienated and distributed kingdoms. He rapidly developed his determination to bend all Europe to the supremacy of France, by surrounding her borders with a circle of dependent kingdoms. As the commencement of this system of imperial ramparts, Holland was given to his brother Louis. Other individuals of his blood were fixed in remoter sovereignties; Naples was given to Joseph; Lucca to his sister Eliza; Guastella to his sister Pauline; the grand duchy of Berg to Murat, his sister Caroline's husband; his stepson Eugene Beauharnois was appointed viceroy of Italy, and married to the daughter of the king of Bavaria; Eugene's sister was married to the hereditary prince of Baden.

Among all the extraordinary workings of Napoleon's power, this sudden exaltation of nameless individuals to pre-eminence struck Europe with the strongest surprise. With this rage for king making, he aspired to resemble as nearly as possible the monarchs and courts around him. His policy in both may very justly be questioned. The true course for Napoleon seems to us to have been indicated, not only by the state of Europe, but by the means which France in the beginning of her revolution had found most effectual. He should have identified himself with some great interests, opinions, or institution, by which he might have bound to himself a large party in every nation. He should have continued to make at least a specious cause against old establishments. To contrast himself most strikingly and advantageously with former governments, should have been the key of his policy. He should have placed himself at the head of a new order of things, which should have worn the face of an improvement of the social state. Nor did the subversion of republican forms prevent his adoption of this course, or of some other which would have secured to him the sympathy of multitudes. He might still have drawn some broad lines between his own administration, and that of other states, tending to throw the old dynasties into the shade. He might have distinguished himself by the simplicity of his establishments, and exaggerated the relief which he gave to his people, by saving them the burdens of a wasteful and luxurious court. He chose, however, to be a king in all the vulgar pomp and parade of the title, without ancestry to render it venerable, without blood to render it legitimate; and as to his conferring this dignity upon his relatives, and placing them over countries to which they were foreigners, the inconsistency was as great as the vanity was contemptible. He thus spread a jealousy of his power, whilst he rendered it insecure; for as none of the princes of his creation, however well disposed, were allowed to identify themselves with their subjects, and to take root in the public heart, but were compelled to act openly and without disguise as satellites and prefects of the French emperor, they gained no hold on those subjects, and could bring no strength to their master in the hour of peril.

Two things are strikingly evident in the early stage of Napoleon's career: that he was resolved upon the attainment of universal empire, and that his sole dependence in securing his object

was brute force, applied by his own skill and dexterity. It is too palpable to be denied that he thought himself more than a match for the moral instincts and sentiments of our nature; that he thought himself able to cover the most atrocious deeds by the splendor of his name, and even to extort applause for crimes, by the brilliancy of his success.

To his favorite and insane projects he saw but one barrier opposed, and to the destruction of it he was resolved to bend all his energies. He had found the strength of England pressing against him as his war system extended, and acknowledged in words, and more expressive actions, that while she remained to rally the broken fortunes of Europe all his victories were in vain. But her ruin would be more than the removal of his most formidable enemy. England held the gate to the high road of the western and eastern worlds. 'With my armies and your fleets we must decide the kingdom of the earth,' was his language to the English government in peace. 'England and France cannot survive together,' was his more sincere language on the declaration of hostilities. But he had found direct attack impossible. He had twice threatened England with invasion; and the threat had only recoiled in shame upon the utterer; to conquer her by peace became once more his policy, but to urge her to pacification she must be first stript of the hope of restoring Europe. Russia, the only untouched power of the continent, alone stood in the way, and her humiliation was resolved on. But Prussia, that lay like the fortress of the north of Germany in the flank of the march, must not be left behind to take advantage of the chances of this colossal warfare. It was attacked and overpowered in a single assault. The whole stately fabric of the science and fortunes of the great Frederick came to the ground in a moment under the fire of the French cannon; and the battle of Jena on the 13th of October, 1806, with a deeper vengeance than that of Austerlitz, drove the king to take refuge among strangers, and turned his kingdom into a garrison of Napoleon. With an adroitness peculiarly his own the French emperor contrived to throw the whole blame of the war upon his victim. The fable of the wolf and the lamb became in this instance a reality. The king of Prussia, well knowing the character of the man who was disturbing every government in Europe, did all he could to conciliate the tyrant, concerning whose intentions he entertained reasonable apprehensions, while at the same time he prepared himself for hostilities should they be forced upon him. The latter necessity soon arrived, and Prussia, with more dignity than prudence, called upon the plunderer to renounce the kingdoms of Holland and Italy, and to withdraw his troops from Germany.

Napoleon, we are told, could not finish reading the document that conveyed these demands, but threw it down with contempt. Alluding to the king of Prussia, he exclaimed, 'Does he think himself in Champagne? Does he want to give us a new edition of his manifesto? What! does he pretend to mark out a route for our march back? Really I pity Prussia. I feel for

William. He is not aware what rhapsodies he is made to write. This is too ridiculous. Berthier, they wish to give us a rendezvous of honor for the 8th; a beautiful queen will be witness to the combat. Come, let us march on, and show our courtesy. We will not halt till we enter Saxony.' Then, turning immediately to his secretary, he hastily dictated this proclamation:—

'Soldiers! The order for your return to France was issued. You were already within a few days' march of your homes: triumphal fêtes awaited you, and the preparations for your reception had commenced in the capital; but, while we thus too confidently resigned ourselves to security, new plots were hatching, under the mask of friendship and alliance. Cries of war have been raised at Berlin, and for two months we have been provoked with a degree of audacity that calls for vengeance. The same faction, the same headlong spirit, which, under favor of our internal dissensions, led the Prussians fourteen years ago to the plains of Champagne, still prevails in their councils. If they no longer wish to burn and destroy Paris, they now boast their intention to plant their colors in Stuttgart, the capital of one of our allies. They would oblige Saxony, by a disgraceful transaction, to renounce her independence, by ranking her in the list of their provinces. They seek, in fine, to tear your laurels from your brows. They expect us to evacuate Germany at the sight of their army. What madness! Let them learn that it would be a thousand times easier to destroy the great capital, than to sully the honor of the great people and their allies. In their former attempt the plans of our enemies were frustrated. They found in the plains of Champagne only shame, defeat, and death; but the lessons of experience are forgotten, and there are men in whom the feelings of hatred and jealousy never become extinct. Soldiers! there is not one of you who would wish to return to France by any other path than that of honor. We ought not to return except beneath triumphal arches. What! have we braved the inclemency of the seasons, the ocean, and the desert; have we subdued Europe, often united against us; have we extended our glory from east to west, only to return now like deserters; and are we to abandon our allies, and then to be told, that the French eagle has fled in dismay before the Prussians? But they have already arrived at our advanced posts: let us then march upon them, since forbearance will not check their infatuation. Let the Prussian army experience the fate it shared fourteen years ago. Let us teach them that if it be easy to obtain an increase of territory and power, with the friendship of the great people, their enmity, provoked by the neglect of prudence and reason, is more terrible than the storms of the ocean.'

The day after he entered the Prussian capital the conqueror addressed his soldiers in the following proclamation:—

'Soldiers! You have fulfilled my expectations, and justified the confidence of the French people. You have endured privation and fatigue, with courage equal to the intrepidity and presence of mind which you evinced on the field of battle.

You are the worthy defenders of the honor of my crown, and the glory of the French people. So long as you continue to be animated by the spirit which you now display, nothing can oppose you. I know not how to distinguish any particular corps. As the result of our campaign, one of the first powers in Europe, which lately proposed to us a dishonorable capitulation, has been overthrown. The forests and defiles of Franconia, the rivers Saale and the Elbe, which our fathers would not have crossed in seven years, we have traversed in seven days; in that short interval we have had four engagements and one great battle. Our entrance into Potsdam and Berlin had been preceded by the fame of our victories. We have made 60,000 prisoners, taken sixty-five standards, among which are the colors of the king of Prussia's guards, 600 pieces of cannon, and three fortresses. Among the prisoners there are upwards of twenty generals. But, notwithstanding all this, more than half our troops regret their not having fired a single shot. All the provinces of the Prussian monarchy, as far as the Oder, are in our power. Soldiers! the Russians boast of coming to meet us, but we will advance to meet them; we will save them half their march: they will meet another Austerlitz in the midst of Prussia. A nation who can so soon forget our generous treatment of her after that battle, in which the emperor, his court, and the wrecks of his army, owed their safety only to the capitulation we granted them, is a nation that cannot successfully contend with us. We will not again be the dupes of a treacherous peace. We will not lay down our arms till we compel the English, those eternal enemies of France, to renounce their plan of disturbing the continent, and relinquish the tyranny which they maintain on the seas.

The way was now cleared for the march of Napoleon to the north, and the declaration was now issued by which the ruin of England was proclaimed as the grand object of the war. The Berlin decrees commanded an abjuration of all intercourse with her by the continent; the measure was impotent; it was baffled by the vigorous commerce of the British empire; it was hated and evaded by all the commercial powers that were still undegraded by the actual presence of the French bayonets; and it was violated even in the recesses of Napoleon's palace. But even its partial operation laid a load of misery to the account of his crimes against mankind.

The first Russian war began. Napoleon advanced into Poland. The Russians, under Benningsen, retreated before his superiority of force. The dreadful severities of a northern winter could not impede the fierce ambition that had sworn to separate Russia from Europe, and drive back the empire to its fountain head in the desert. Three desperate encounters, that of Pultusk fought in November 1806, with partial discomfiture to the French; Eylau, fought in February of the following year, a drawn battle; and Friedland, fought in June, with great loss to the Russians, produced the treaty of Tilsit, which publicly stipulated for the seizure of Finland, and privately for that of Constantinople. The

conditions claimed by France were, the revivâ of the armed neutrality, the seizure of Spain, and the shutting of the Russian ports against English commerce, an exclusion which was followed by Austria and Prussia. Napoleon might now be considered at the zenith of his glory. Apparently he had cemented a personal friendship with the emperor Alexander. They lived at Tilsit in habits of the closest intimacy; and it is Napoleon who says, 'we were two young men of quality, who, in their common pleasures, had no secret from each other.' Could ambition have known when to pause, this was the time. The north and east of Europe were his own; millions regarded him with admiration bordering on that awe which is felt when contemplating a being of superior nature; his few enemies were ready to enter into terms of amity could they have been assured of his good faith and sincerity. And he was the idol of France, not only on account of his victories in the field, but because his government and internal policy, though despotic, were of a kind to impress his subjects with a powerful conviction of his capacity to govern. The code Napoleon, which was given to France under his auspices, entitles him to an honorable renown. In this almost solitary instance he showed that he understood something of true glory, and we prize it the more on this account. We look on the conqueror, the usurper, the sporter of kingdoms, the insatiable despot, with disgust, and see in all these characters an essential vulgarity of mind. But, when we regard him as a fountain of justice to a vast empire, we recognise in him a resemblance to the just and benignant deity, and cheerfully award to him the praise of bestowing on a nation one of the greatest gifts, and of the most important means of improvement and happiness which it is permitted to man to confer. It was, however, the misery of Buonaparte, a curse brought on him by his crimes, that he could touch nothing without leaving upon it the polluting mark of despotism. His usurpation took from him the power of legislating with magnanimity, where his own interest was concerned. He could provide for the administration of justice between man and man, but not between the citizen and the ruler. Political offences, the very class which ought to be submitted to a jury, were denied that mode of trial. Juries might decide on other criminal questions; but they were not to be permitted to interpose between the despot and the ill-fated subjects who might fall under his suspicion. These were arraigned before special tribunals, invested with a half military character, the ready ministers of nefarious prosecutions, and only intended to cloak by legal forms the murderous purpose of the tyrant.

The conscription was, however, amid all the ameliorating influences of the civil code, the most terrible engine of despotism; and it was ultimately the destruction of the hand that wielded it. It comprehended nearly the whole population,—all capable of bearing arms, with the exception of the ecclesiastics. It enlisted the youths of the kingdom at the age of twenty and upwards. The rigor of its conditions was extreme. No distinction was made between the

married man, whose absence might be the ruin of his family, and the single member of a numerous lineage, who could be easily spared. The son of the widow, the child of the decrepid and helpless, had no right to claim an exemption. Three sons might be carried off in three successive years from the same desolated parents; there was no allowance made for having already supplied a recruit. Those unable to serve were mulcted in a charge proportioned to the quota of taxes which they or their parents contributed to the state, and which might vary from fifty to 1200 francs. Substitutes might indeed be offered, but then it was both difficult and expensive to procure them, as the law required that such substitutes should not only have the usual personal qualifications for a military life, but should be domesticated within the same district as their principal, or come within the conscription of the year. Suitable persons were sure to know their own value, and had learned so well to profit by it that they were not to be bribed to serve without excessive bounties. The substitutes had also the practice of deserting upon the road, and thus cheating the principal, who remained answerable for them till they joined their colors. On the whole, the difficulty of obtaining exemption by substitution was so great, that very many young men, well educated, and of respectable families, were torn from all their more propitious prospects, to live the life, discharge the duties, and die the death of common soldiers in a marching regiment. But perhaps the most terrible part of the fate was, that it was determined for life. Whatever may be said in favor of such a system for the purpose of maintaining a war purely defensive, applied as it was by Buonaparte to the conduct of distant offensive uses, no otherwise necessary than for the satisfaction of his own ambition, it clearly involves the charge of having drained the very life-blood of the people for purposes in which they had no comparative interest.

With such mighty resources Napoleon was resolved to commence a new era in his violent and desolating career. He had proved the strength of France over the north and east of Europe with the consuming rapidity of a stream from a volcano; but he was now to encounter another species of resistance. He had warred with kings,—he had now to war with the people.

Pursuing the cruel and illusory scheme of destroying England by the destruction of commerce, a measure which embittered even the military slavery of the continent, he had succeeded to the extent of a public exclusion of British trade in the immense line of coast from the Baltic to the Bay of Biscay. But Spain and Portugal, connected with England by those old ties of habit which are stronger than treaties, and even by those necessities which neither king nor nation can control, still carried on an intercourse too valuable to be broken up by a paper blockade. It was now, therefore, decreed that Spain and Portugal should become provinces of France.

As if with the predestined design of showing to the world the baseness of which ambition might be made, the progress of Napoleon to this seizure was marked with the true character of

the man. Hitherto he had conquered by the natural weapon of a soldier, or, if art had mixed with these, it was scarcely of a more degraded kind than that which belongs to the lax morality of war. But his art now sunk below stratagem, it was falsehood, meanness, systematic perfidy, and this baseness was if possible deepened by its want of all that could be termed necessity. The Spanish throne was filled by a man of weak intellect; the Spanish cabinet by a compound of fools and traitors. Both would have been a voluntary prey. Neither could have required that serpentine winding, that long convolution of loathsome and abhorrent subtlety, by which they were entangled and undone. This was Napoleon himself. The project and the policy were exclusively his own. His habitual agents, shorn of their honors as they have been since by the common indignation of mankind, have yet exonerated themselves from all share in a transaction by which Napoleon established his title to the first rank of treachery.

It was in one of the actions of the Spanish war that the memorable event occurred which ought to have made him the execration of the army as well as of the world.

On the 29th of November Napoleon was at Bozeguillas; on the 30th, at day-break, the duke of Belluno, marshal Victor, arrived near the strong position of Somo Sierra, defended by 13,000 men under general San Juan. The Puerto, or narrow neck of land forming the pass, was intersected by a trench fortified with sixteen pieces of cannon. While a part of the French advanced on the direct road to this position, other columns gained the heights on the left. The Somo Sierra forms a part of the chain called Carpetanos, which traverses the great road from Castile. The enemy's tirailleurs covered the heights on the right and left. Whilst the French infantry were making the most painful efforts to ascend these, sustaining with their wonted firmness the double fire of the Spanish musketry and artillery, Napoleon arrived at the head of the cavalry of his guard, which were preceded by the Polish lancers. The emperor stopped near the foot of the mountain, and attentively examined the enemy's position, the fire from which seemed to redouble; many balls fell near him, or passed over his head. As the French infantry did not appear to make any sensible progress, the emperor confided to the Polish lancers the service of charging the enemy's battery upon the summit of the mountain. Conducted by their chief, count Krasinski, these brave men advanced four a-breast, the narrow causeway not admitting more. For a moment the fire of the battery and that of the Spanish tirailleurs arrested their progress; but, rallied by count Krasinski and colonel Dautancourt, they soon returned with other squadrons, assisted by the French infantry, when, notwithstanding the fire upon their flanks, and the shower of grape shot, the defeat of the enemy was the work only of a few minutes: the artillery was seized, and the men sabred, dispersed, or taken. The regiment that had performed this brilliant charge was from that moment justly associated with the flower of the old French imperial guard.

The advantages of an action thus memorable were decisive. The Spanish corps were totally dispersed. They lost ten stands of colors, all their artillery and baggage, thirty caissons, the regimental chests, a great number killed, wounded, and prisoners, including several colonels, and other superior officers. The Polish lancers had fifty-seven men killed and wounded, besides several officers. From a subsequent account it appears that colonel Piré, who was first sent upon this service with the Poles, having reconnoitred the position, countermanded the advance of the Poles, and sent an officer to inform the emperor that the undertaking was impossible. Upon this information Napoleon, irritated, striking the pommel of his saddle, exclaimed, 'Impossible! Why, there is nothing impossible to my Poles.' General Wattier, who was present, endeavoured to calm him; but he still continued to articulate, 'Impossible! I know of no such word. What! my guard checked by the Spaniards, by armed peasants?' At this moment the balls began to whistle about him, when, by a natural instinct, several officers came forward to persuade him to withdraw. Among these Napoleon observing major Philip Segur, he said, 'Go, Segur, take the Poles, and make them take the Spaniards, or let the Spaniards take them.'

Piré having informed the chef d'escadron Kozietulski of what the emperor had said, this officer replied, 'Come then along with me, and see if the devil himself, made of fire as he is, would undertake this business.' He was right: 13,000 Spaniards were placed, as it were, in an amphitheatre, in such a way that no one battalion was masked by another; they could only join in columns. From this point the Poles would have to sustain 40,000 discharges of musketry; and as many of cannon, every minute. However, the order was positive. 'Commandant,' said Segur, 'let us go; it is the emperor's wish: the honor will be ours: Poles, advance. Vive l'empereur.' The squadron then rushed forward; when, out of upwards of eighty men, scarcely twenty remained unhurt. Four officers out of seven were killed on the spot; the Polish commandant and two others were wounded. Major Segur, some paces in advance, was struck by several balls, and found himself standing alone with lieutenant Rudowski, a fine tall man, and of great promise. The bodies of the Polish lancers choked up the passage; this squadron was annihilated.

As the means of showing him to the whole civilised world, in his undisguised and genuine character, the war with Spain was fraught with the most important and beneficial consequences. With a miserable consciousness of his guilt, he said in his exile, 'That wretched war, it was my ruin. It divided my forces, it multiplied the necessity of my efforts, it injured my character for morality.' It was in this injury that the retributive blow was dealt. It stamped him with indelible personal baseness before the world; it showed the utter futility of looking for honor in his nature, or relying on any pledge for his word but his chains. If he could have looked forward but a few years, he would have seen that in the very hour of his keenest triumph at Bayonne,

with the dynasty of Spain bound hand and foot before him, he was building his dungeon, and, in that dungeon, digging his grave.

His military discomfitures, in the early campaigns of the Spanish war, compelled him to another desperate struggle for Germany. The Austrian empire, mutilated and insulted, longed for revenge, and the opportunity was taken in the absence of Napoleon in the Peninsula. But his star was not yet to sink. With characteristic rapidity he flew to the hostile frontier, fought the great battles of Eckmühl, Aspern, and Wagram, and again took possession of the capital, reducing Austria to solicit the peace of Schoenbrunn, in October 1809, by which they gave up 45,000 square miles of territory, and a population of nearly 4,000,000. A scarcely less remarkable event was the arrest of pope Pius VII., and the annexation of his states to France, by the entrance of the French into Rome, February 2d, and the decree of the 17th of May.

Two days after the ratification of the treaty of Vienna Napoleon was in danger of assassination, during the review of the troops upon the parade of Schoenbrunn. A young man of an interesting figure, and of a placid appearance, who had concealed himself among the spectators, suddenly rushed upon the emperor, attempting to strike him with a poniard. The prince of Neufchatel arrested his arm, and general Rapp immediately seized the assassin. Napoleon was sufficiently master of himself to preserve an unalterable countenance, and continued to order the evolutions, as if the incident that occurred had been of no importance. This young man was conducted to the guard-house and searched: nothing was found upon him but a common knife, four Frederics-d'or, and the portrait of a female. To all the questions put to him by general Savary, he only answered, that he would speak to the emperor. Informed of his obstinate silence, Napoleon sent for the culprit into his closet—'Whence came you,' said he, 'and how long have you been at Vienna?'—'I am a native of Erfurt, and I have been at Vienna two months.'—'What would you have of me? You want a peace, and you say you can prove it is indispensable. Do you think I could listen to a man without a public character, on any mission?'—'If you had I should have stabbed you.'—'What harm have I done you?'—'You have oppressed my country and the whole world; and if you do not make peace your death will be necessary to the happiness of humanity: in killing you I should have performed the finest action that a man of honor could undertake. But I admire your talents, and as I reckoned upon your reason, I wished, before I struck the blow, to have convinced you.'—'Have you been led to this determination by religion?'—'No; my father, a Lutheran minister, is ignorant of my project, which I have not communicated to any one. I have consulted no person whatever. I am alone, and for two years past I have meditated your conversion, or your death.'—'Were you at Erfurt when I was there last year?'—'I saw you there three times.'—'Why did you not kill me then?'—'You suffered my country to respire: I thought peace was certain, and es-

teemed you as a great man.'—'Do you know Schneider or Schill?'—'No.'—'Are you an illuminé, a free-mason?'—'No.'—'You know the history of Brutus?'—'There were two Romans of this name; the last died in the cause of liberty.'—'Have you any knowledge of the conspiracy of Moreau and Pichegru?'—'I heard of it from the public papers.'—'What do you think of those men?'—'They labored for themselves, and were afraid to die.'—'A portrait has been found upon you; whom does it represent?'—'My best friend, the adopted daughter of my virtuous father.'—'What! have you a heart susceptible of these tender emotions, and are you not unwilling to afflict and ruin those you love in becoming an assassin?'—'I have listened to a voice much stronger than that of my own tenderness.'—'But in assassinating me in the midst of my army, could you think of escaping?'—'In reality, I am astonished that I continue to exist.'—'If I pardon you, what use will you make of your liberty?'—'My project has failed, and you will now be upon your guard. I shall return peaceably to my family.' Napoleon then called M. Corvissart, his first physician, and asked him if he did not perceive some signs of insanity in this young man? After having carefully examined him, he replied, he could not discern any symptoms of unusual emotion in him.

This unfortunate man remained under the care of two gens d'armes two days; he walked about quietly, and frequently knelt down to pray. At his dinner time they brought him a table-knife. He took it; but looking at it some time, a gendarme would have taken it from him. 'Don't be afraid,' said he; 'I shall do myself no more harm than you would.' On the following day he heard the cannon fire, and asked the cause. 'It is peace,' said they.—'Peace!' said he; 'do not deceive me.' He was assured nothing was more true. He then gave himself up to transports of joy, and tears fell from his eyes. He fell upon his knees, and prayed fervently; and rising up he said, 'I shall die with more tranquillity.' When he was called upon to undergo the sentence, he said to the officer, 'Sir, I have only one favor to ask; that is, not to be bound.' It was granted; he walked freely, and died with calmness. This attempt at assassination, upon which the French journals of the time observed a profound silence, has been variously related: the present details were communicated by an eye-witness; but the attempt is said to have powerfully contributed to accelerate the peace with Austria, and hasten the return of Napoleon to France.

Napoleon departed from Schoenbrunn on the 27th of October; on that day he rose at five in the morning, and, sending for general Rapp, they walked out to the great road, to see the imperial guard pass along on its way to France. Napoleon again spoke of the young German who had attempted to assassinate him; he thought it a thing unparalleled, and told the general to enquire how he died. It appears that the prisoner had been executed in the morning of the 27th; that he had taken no food since the 24th, but constantly refused it, saying he had strength enough

to walk to the place of execution. He was informed that peace was concluded, and this seemed to excite some agitation in him. His last words were, 'Liberty for ever! Germany for ever! Death to the tyrant!'

Though Napoleon escaped the knife of the assassin, the time hastened which was to close his career of power and evil. His triumphs were already turning into his misfortunes. The successful seizure of the Spanish royal family had been followed by the most ruinous of his wars. His conquest of Austria was followed by an event which, while it gave a new dye to his personal baseness, probably gave the most fatal impulse to his fall. The giddy policy, perhaps the empty ambition, of a lofty alliance, prompted him to demand a daughter of Austria in marriage. His choice was fixed on Marie Louise, the eldest daughter of Francis II.

Very great obstacles seemed to oppose this union, especially as it was one of the conditions dictated by the conqueror; it was repulsive to the conveniences, the opinion, and the hereditary pride of the house of Austria: however, the emperor of the French undertook to smooth the difficulties that existed on his side, and the Austrian monarch consented to the sacrifice demanded.

It was in vain that a legitimate union, sanctioned by time, and consecrated by the solemnity of a coronation, had associated the fate of Josephine with that of Napoleon. Neither the virtues of this lady, whom he had placed by his side, nor the gratitude that he owed to the first promoter of his fortune, could arrest the ambition of the French emperor. He pretended to be in want of an heir, though he had already proposed his brothers as his successors. A Senatus Consulte of the 16th of December, 1809, declared the dissolution of his marriage with Josephine. The church also yielded in its turn. The nullity of the marriage, as to any spiritual obligation, was likewise pronounced by the officialy of Paris. The victim too of this determination, whose grief should have saved her from the humiliation of figuring in this business, could not be excused: she was compelled to come forward and declare, 'that having no more hope of giving children to her husband, which would be consistent with his politics, she resigned herself to the greatest sacrifice that she could possibly be called on to make.'

It is cheering to our common scorn of ingratitude, the basest of the vices, to trace its punishment. This marriage was among the immediate causes of Napoleon's ruin. It deprived him of the counsel of an intelligent and disinterested friend, who had often restrained the violence of his impetuous nature. It disgusted all the principled classes of France; it gave the agitators an easy opportunity of throwing suspicion on his policy, and quoting the old evils of an Austrian alliance; it finally awoke the determination of Russia to resist at all hazards. The combination of France with Austria menaced the czar with utter overthrow. 'The next step,' said Alexander, on the announcement of the marriage, 'will be to drive me back to my forests.' A more solemn and fearful result of this con-

tempt of human obligation may have been the work of that invisible justice which suffers the long course of guilt only to make its punishment more decisive. Napoleon now touched the limit of all his glories. The supremacy that looked down full orb'd on the broken and prostrate nations of the continent was on the verge of eclipse; and within a period almost too brief for the contemplation of history, yet full of events that may be felt in every future age, it was finally overshadowed. One year of haughty and unshaken domination was still interposed between Napoleon and the first approach of his undoing. Determined on the subversion of the Russian empire he summoned the vassal kings to Dresden, and gave Germany his parting menace against a breach of allegiance in a circle of crowned slaves. He could not restrain this ungenerous exultation: 'Come,' he wrote to Talma, 'at Dresden you shall play to a pit full of kings.' The emperor of Austria, the king of Prussia, a crowd of electors and potentates, surrounded the dispenser of thrones. Eleven sovereign princes attended his commands. All history offers no example of an assemblage so superb and so humiliated, so hopeless of restoration, yet so swiftly and nobly restored.

What but the arm of providence could have scattered, with the suddenness of the fall of a billow, the power of the French empire? Past and gone as it is, even its memory is appalling. Its actual limits were scarcely defined by a line drawn from the Baltic round the shores of the continent, along the Pyrennees, and from the Pyrennees round Italy, to the dominions of the pope; Naples alone excepted as under the nominal sovereignty of Murat. But the actual empire also comprehended Switzerland, the confederation of the Rhine, and a crowd of minor principdoms; thus constituting a dominion of 800,000 square miles, and 85,000,000 of people; the fifth of Europe in territory, the half in population, and in site, fertility, and military means, immeasurably overmatching all that remained. The actual population of France, and the provinces united to its territory, was 42,000,000 in the centre of Europe. As the origin of this stupendous dominion had been conquest, it was still ruled by the sword. The prime mover of the great machine was an army, unexampled in numbers, still more unexampled in equipment, discipline, and habits of war, and deriving yet higher distinction from the fame and talent of its leaders, and above all of him who was the master soul of all, Napoleon. When he meditated his attack on Russia he had under his command the overwhelming multitude of 800,000 soldiers, in the highest state of preparation for war, and he declared himself forced to assume 'the dictatorship of the world.' To Fouché, who had ventured to remonstrate against the Russian war, his sullen answer was,—'My destiny is not yet accomplished, there must be one universal European code, one court of appeal, the same money, the same weights and measures, the same laws, must have currency through Europe. I must make one nation out of all the European states, and Paris must be the capital of the world.' Truly a sterner strength than that of man was

now upon him. He must advance, and his next step is from a precipice.

Napoleon at the head of these armies amounting to 470,000 men assailed Russia on a frontier of 600 miles. The Russian troops, commanded by Barclay de Tally, were 260,000: the narrative of this campaign is imperishable. It displays in the noblest light the gallantry of the Russian troops and the patriotism of the emperor and his people. The burning of Moscow was a sacrifice to which history has no rival. But it was ordained that this capital in flames should be the funeral pile of Napoleon's empire. The retreat through the wilderness inflicted the last horrors upon the invading army: what the sword could not reach, the storm in its rage extinguished. 'The stars in their courses fought against Sisera;' yet not by so direct and miraculous an interposition, as to justify the proud boast of the advocates of this great scourge of humanity, that he could be conquered by heaven alone. It was not the setting in of the frost earlier than usual that baffled the calculation of Napoleon; for it was later in its commencement than in several former years; but it was his inexplicable delay in refusing to depart from the scene of desolation, his lingering at the Kremlin, vainly expecting overtures from Alexander, that was the proximate cause of the total annihilation of his fine army: add to which their attempt to carry away the cumbrous spoils of Moscow, and the multitude of stragglers that were attached to the march on this account, and which retarded the progress of the fugitives, till the sleet and the snow, and the cold of the desert, stiffened them on its plains. The detail is appalling beyond the power of the imagination to conceive. Napoleon once declared that the most impressive scene he had ever witnessed was when he saw 70,000 troops struggling in the conflict of death: what must have been the spectacle of as many thousands perishing in detail,—perishing before his eyes by a lingering maddening torture! Napoleon's death blow was now given. The campaign of the following year was only a despairing effort to recover Germany. The great battle in Leipsic, in 1813, crushed invasion for ever and drove the French behind the Rhine. The following extract detailing what occurred in an interview between Buonaparte and the abbe de Pradt at Warsaw, where he was a fugitive rapidly flying from the pursuing Russians, is extremely interesting.

When Napoleon arrived at Warsaw on the 10th of December, instead of proceeding to the palace, he put up at the hotel D'Angleterre, whence M. Caulincourt was despatched to summon the appearance of the abbé de Pradt, the ambassador to Poland. Arrived at the house, the first question was, 'Where is the emperor?'—'At the hotel D'Angleterre: he expects you!'—'Where are you going?'—'To Paris!'—'and where is the army?'—'It is gone,' said he, turning up his eyes to heaven.—'But what of the victory of the Berezina, and the six thousand prisoners we made?'—'That is all gone by * * *.—Some hundreds of men had escaped. We had something else to do than to guard them.' Then taking him by the arm, I said, 'It is time that all the faithful servants of the emperor should unite

in telling him the truth.'—'Ah, what a failure said he; 'but I have not to reproach myself with not having foretold it.'

'I hurried out, and arrived at the hotel about half past one o'clock. A few Polish gens d'armes guarded the gate; the master of the hotel examined me; hesitated a little, and then allowed me to pass. I saw a small carriage body placed on a sledge made of four pieces of fir; it had stood some crashes, and was much damaged. Two open sledges there had served for the conveyance of general Lefebvre Desnouettes, another officer, the Mameluke Roustan, and a valet. This was all that remained of so much grandeur and magnificence. I thought I beheld the winding-sheet carried before the great Saladin. The door of a room on the ground-floor was mysteriously opened. A short parley took place; the duke of Vicenza came, introduced me to the emperor, and left me with him. He was in a cold small lower apartment, and had the window-shutters half closed, the better to conceal his incognito. An awkward Polish servant continued blowing a fire of green wood which, resisting her efforts, diffused far more water over the stove than heat in the apartment. The emperor, according to his custom, was walking about, wrapped up in a superb pelisse lined with green, and with magnificent gold braudenburgs. He had on a kind of fur cap, and his boots were also surrounded with fur. 'Ah, Monsieur the ambassador,' said he, smiling—I approached, and addressed him thus: 'You look well: you have made me very uneasy; but at length you are here: I am happy to see you.'—'How are you off in this country?' said he. I described to him the actual state of the duchy. I urged on the ground of prudence, the dignity of the emperor and the confederation, the quiet removal of the embassy and the council before the arrival of the enemy; spoke to him of the distress of the duchy and the Poles. He asked with vivacity, 'Who has ruined them?' I replied, 'What has been doing for these six years: the scarcity of last year, and the continental system deprive them of all commerce.' At these words his eyes were lighted up. He proceeded, 'Where are the Russians?' I told him—'And the Austrians?'—'I have not heard of them for a fortnight.'—'General Reynier?'—'Nor of him neither.'—I spoke to him of the Polish army. 'I have seen none of them,' said he, 'during the campaign.'—I explained the reason of that, and why the dispersion of the Polish forces had at last rendered an army of 82,000 men invisible. 'What do the Poles want?'—'To be Prussians, if they cannot be Poles.'—'And why not Russians?' replied he, with an air of irritation. He said, 'we must raise 10,000 Cossacks: a lance and a horse are sufficient for them—with that force the Russians may be stopped.'

'Soon after he dismissed me, recommending to bring after dinner count Stanislaus Potocki and the minister of finance, two members possessing most credit in the council. This interview lasted about a quarter of an hour, during which, as usual, he walked about with much agitation, and sometimes fell into a profound reverie. We met again at the hotel D'Angleterre

at three o'clock; he had just risen from table.—'How long have I been in Warsaw?'—'Eight days—No, only two hours;' said he, smiling, without any preamble or preparation, 'from the sublime to the ridiculous there is but a step.'—'How do you do, Mr. Stanislaus, and you, Mr. Minister of the Finances?'—On these gentlemen repeatedly expressing their satisfaction on seeing him well after so many dangers, he replied, 'Dangers! Not the least—Agitation is life to me: the more trouble I have the better I am. None but sluggish kings fatten in their palaces. Horseback and camps for me.' From the sublime to the ridiculous there is only a step. It was plain then that he considered himself an object for the derision of all Europe, and this idea was to him the greatest of all punishments. He said, 'You are very much alarmed here.'—'It is because we only know what public rumor informs us.'—'Bah! the army is superb. I have 120,000 men: I always beat the Russians. They are no longer the soldiers of Friedland and Eylau. I am going to raise 300,000 men. Success will render the Russians rash. I shall give them three or four battles in the Oder, and in six months I shall be again on the Niemen. I am more wanting on the throne than in my army. I leave it with regret. All that has happened is nothing; it is a misfortune; it is the effect of climate. The enemy is good for nothing: I beat him every where. They wished to cut me off at the Berezina—I laughed at that fool of an admiral Tchitchagoff.'

'He added a good deal on strong and feeble minds, and mostly all that was inserted in the 29th bulletin. He then proceeded—'It used to be otherwise. At Marengo I was beaten till six in the evening: at Essling I was master of Austria: that archduke thought to stop me; but I could not prevent the Danube from rising sixteen feet in one night. Ah! if it had not been for that, the Austrian monarchy was ended; but it was written in heaven, that I should marry an archduchess.—[This was said with an air of great gaiety]—It has been the same with Russia: I could not prevent the frost: I was told every morning that I had lost 10,000 horses during the night. Well! bon voyage. This was repeated five or six times. Our Norman horses are not so hardy as the Russian horses. It is the same with the men. Perhaps it will be said, I stopped too long at Moscow; but it may be so; the weather was good. I expected peace. I sent Lauriston with an overture. I thought of going to Petersburg. We will maintain ourselves at Wilna. I have left the king of Naples there: ah! ah! what a grand political scheme. He who risks nothing gains nothing. From the sublime to the ridiculous there is but one step.'—He then got into a rambling discourse, which continued for three hours; the fire had gone out, and every one but the emperor felt the effects of the cold: he seemed to keep himself warm by his vehement utterance. At length, when the minister joined with the ambassador in addressing to him the most respectful and affectionate wishes for the preservation of his health and the prosperity of his journey, he replied, 'I never was better; if I carried the devil with me I should be all the

better for that.' These were his last words uttered at Warsaw; he then mounted the humble sledge which bore Cæsar and his fortune, and disappeared. A violent shock which the vehicle received in passing out at the gate had nearly overturned it.

'Such,' says this relater, 'was the famous conversation, in which Napoleon fully disclosed his bold and incoherent genius; his cold insensibility, and the fluctuation of his ideas among various diverging projects, his past schemes, and his approaching dangers.

In 1814 France at length felt the horrors of war. The vassal sovereigns threw off their reluctant allegiance and joined the allies. A succession of sanguinary battles led the invaders to Paris; and Napoleon, dethroned and exiled, was the prize of the war. The emperor of Elba! (from the sublime to the ridiculous) the emperor of Elba, assisted equally by his income and his friends, was encouraged to make another effort to rise above his falling fortunes. The congress of Vienna, alarmed him for his safety; the restored Bourbons prepared his way by their absurd policy in awakening the fears of all France on the subject of the emigrants and the national property. The army by its intrigues opened a direct communication with their fallen master; and all things being propitious he returned within the year in triumph to his good city of Paris, and seated himself once more on the throne of Charlemagne.

His reign of 100 days was only a hollow pageant. He must have felt that, though restored, he had lost all the solidity of greatness. He saw the gathering storm and met it with the energy of despair. The battle of Waterloo quenched his glory for ever. He received his merited reward on the rock of St. Helena. He did not surrender himself to the generosity of the British government,—he fell into the power of England as a prisoner of war. He was dealt with accordingly. We wish, however, that in the treatment of him there had been greater magnanimity: we deem it not very creditable to those who had the charge of his person that they, in the language of Dr. Channing, tortured a sensitive captive by refusing him a title which he had long worn. We think that not only religion and humanity, but self-respect, forbids us to inflict a single useless pang on a fallen foe. With regard to the scruples which not a few have expressed, as to the right of banishing him to St. Helena; we can only say that our consciences are not yet refined to such exquisite delicacy as to be at all sensitive on this particular. We admire nothing more in Buonaparte than the effrontery with which he claimed protection from the laws of nations. That a man who had set these laws at defiance should fly to them for shelter; that the oppressor of the world should claim its sympathy as an oppressed man, and that his claim should find advocates: these things are to be set down among the extraordinary events of this extraordinary age. Truly the human race is in a pitiable state: it may be trampled on, sported, loaded like a beast of burden, made the prey of rapacity, insolence, and the sword; but it must not touch a hair, or dis-

turb the pillow of one of its oppressors, unless it can find chapter and verse in the code of national law to authorize its rudeness towards the privileged offender. For ourselves we should rejoice to see every tyrant, whether a usurper or an hereditary prince, fastened to a lonely rock in the ocean. Whoever gives clear undoubted proof that he is prepared, and sternly resolved, to make the earth a slaughter-house, and to crush every will adverse to his own, ought to be caged like a wild beast; and to require mankind to proceed against him according to written laws and precedents, as if he was a private citizen in a quiet court of justice, is just as rational as to require a man, in imminent peril from an assassin, to wait and prosecute his murderer according to the most protracted forms of law. There are great solemn rights of nature which precede laws, and on which law is founded. There are great exigencies in human affairs which speak for themselves, and need no precedent to reach the right path. There are awful periods in the history of our race which do not belong to its ordinary state, and which are not to be governed and judged by ordinary rules. Such a period was that when Buonaparte, by infraction of solemn engagements, had thrown himself into France and convulsed all Europe; and they who confound this with the ordinary events of history, and see in Buonaparte but an ordinary foe to the peace and independence of nations, have certainly very different intellects from our own.'

On the 22d of June, 1815, Napoleon abdicated a dignity he could no longer retain. About noon on the 15th of October in the same year he arrived at St. Helena; and on the 21st of May, 1821, he expired of an hereditary disease, in the fifty-second year of his age. His remains rest in a beautiful valley under the pendant branches of several flourishing weeping willows near his favorite spring, and not far distant from Longwood, the place where he had resided.

One writer, speaking of the character of Napoleon, observes, 'Were I to be guided in forming my estimate of the late exile of St. Helena by the common principles of the world, by the principles which are equally maintained and acted upon by those that reverence and those that detest him; above all were I to rest satisfied by comparing him with his heartless imbecile and vindictive contemporaries who wanted only his talents, his opportunities, and resources, to render them all that they affect to condemn in him, I should certainly pronounce him to have been a great man; but judging of him by a totally different standard, and viewing him as separated from the bad things and the weak things around him; taking his real and not his relative moral dimensions, I cannot award the character of greatness to one who never conceived a great and a magnificent idea that was not tarnished and diminished by the most undisguised selfishness, and who never formed a wish unconnected with the degradation and misery of his species. Napoleon Buonaparte was not in the Christian, in the noble, in the only sense of the phrase, a great man. His career was wonderful, and it can never be forgotten that he lived; but when the time shall come that men will estimate the distinguished of their spe-

cies, not by their talents but by their virtues; and when superior philanthropy and goodness shall be the only passport to glory and renown—then will the names of Buonaparte, of Alexander, and of Cæsar, be associated in one common infamy.

Dr. Channing of America, whose analysis of the character of Buonaparte we have liberally used in the preceding memoir, thus traces the great outline:—‘His intellect was distinguished by rapidity of thought. He understood, by a glance, what most men, and superior men, could learn only by study. He darted to a conclusion rather by intuition than reasoning. In war, which was the only subject of which he was master, he seized in an instant on the great points of his own and his enemy’s positions: and combined at once the movements by which an overpowering force might be thrown with unexpected fury on a vulnerable part of the hostile line, and the fate of an army be decided in a day. He understood war as a science; but his mind was too bold, rapid, and irrepresible, to be enslaved by the technics of his profession. He found the old armies fighting by rule, and he discovered the true character of genius, which, without despising rules, knows when and how to break them. He understood thoroughly the immense moral power which is gained by originality and rapidity of operation. He astonished and paralysed his enemies by his unforeseen and impetuous assaults, by the suddenness with which the storm of battle burst upon them; and, whilst giving to his soldiers the advantages of modern discipline, breathed into them, by his quick and decisive movements, the enthusiasm of ruder ages. This power of disheartening the foe, and of spreading through his own ranks a confidence, and exhilarating courage, which made war a pastime, and seemed to make victory sure, distinguished Napoleon in an age of uncommon military talent, and was one main instrument of his future power.

The wonderful effects of that rapidity of thought by which Buonaparte was marked, the signal success of his new mode of warfare, and the almost incredible speed with which his fame was spread through nations, had no small agency in fixing his character, and determining for a period the fate of empires. These stirring influences infused a new consciousness of his own might. They gave intensity and audacity to his ambition; gave form and substance to his indefinite visions of glory; and raised his fiery hopes to empire. The burst of admiration, which his early career called forth, must in particular have had an influence in imparting to his ambition that modification by which it was characterised, and which contributed alike to its success and to its fall. He began with astonishing the world; with producing a sudden and universal sensation, such as modern times had not witnessed. To astonish, as well as to sway, by his energies, became the great aim of his life. Henceforth to rule was not enough for Buonaparte. He wanted to amaze, to dazzle, to overpower men’s souls by striking, bold, magnificent, and unanticipated results. To govern ever so absolutely would not have satisfied him, if he must have governed silently. He wanted to reign through

wonder and awe, by the grandeur and terror of his name, by displays of power which would rivet on him every eye, and make him the theme of every tongue. Power was his supreme object, but a power which should be gazed at as well as felt, which should strike men as a prodigy, which should shake old thrones as an earthquake, and, by the suddenness of its new creations, should awaken something of the submissive wonder which miraculous agency inspires.

Such seems to us to have been the distinction, or characteristic modification, of his love of fame. It was a diseased passion for a kind of admiration, which, from the principles of our nature, cannot be enduring, and which demands for its support perpetual and more stimulating novelty. Mere esteem he would have scorned. Calm admiration, though universal and enduring, would have been insipid. He wanted to electrify and overwhelm. He lived for effect. The world was his theatre, and he cared little what part he played, if he might walk the sole hero on the stage, and call forth bursts of applause, which would silence all other fame. In war the triumphs which he coveted were those in which he seemed to sweep away his foes like a whirlwind; and the immense and unparalleled sacrifice of his own soldiers, in the rapid marches and daring assaults to which he owed his victories, in no degree diminished their worth to the victor. In peace he delighted to hurry through his dominions; to multiply himself by his rapid movements; to gather at a glance the capacities of improvement which every important place possessed; to suggest plans which would startle by their originality and vastness; to project in an instant works which a life could not accomplish, and to leave behind the impression of a superhuman energy.

Our sketch of Buonaparte would be imperfect indeed, if we did not add, that he was characterised by nothing more strongly than by the spirit of self-exaggeration. The singular energy of his intellect and will, through which he had mastered so many rivals and foes, and overcome what seemed insuperable obstacles, inspired a consciousness of being something more than man. His strong original tendencies to pride and self-exaltation, fed and pampered by strange success and unbounded applause, swelled into an almost insane conviction of superhuman greatness. In his own view he stood apart from other men. He was not to be measured by the standard of humanity. He was not to be retarded by difficulties to which all others yielded. He was not to be subjected to laws and obligations which all others were expected to obey. Nature and the human will were to bend to his power. He was the child and favorite of fortune, and, if not the lord, the chief object of destiny. His history shows a spirit of self-exaggeration, unrivalled in enlightened ages, and which reminds us of an oriental king to whom incense had been burnt from his birth as to a deity. This was the chief source of his crimes. He wanted the sentiment of a common nature with his fellow beings. He had no sympathies with his race. That feeling of brotherhood which is developed in truly great souls with pe-

cular energy, and through which they give up themselves willing victims, joyful sacrifices, to the interests of mankind, was wholly unknown to him. His heart, amidst all its wild beatings, never had one throb of disinterested love. The ties which bind man to man he broke asunder. The proper happiness of a man, which consists in the victory of moral energy and social affection over the selfish passions, he cast away for the lonely joy of a despot. With powers which might have made him a glorious representative and minister of the beneficent Divinity, and with natural sensibilities which might have been exalted into sublime virtues, he chose to separate himself from his kind, to forego their love, esteem, and gratitude, that he might become their gaze, their fear, their wonder; and for this selfish, solitary good, parted with peace and imperishable renown.

This insolent exaltation of himself, above the race to which he belonged, broke out in the beginning of his career. His first success in Italy gave him the tone of a master, and he never laid it aside to his last hour. One can hardly help being struck with the natural manner with which he arrogates supremacy in his conversation and proclamations. We never feel as if he were putting on a lordly air, or borrowing an imperious tone. In his proudest claims he speaks from his own mind, and in native language. His style is swollen, but never strained, as if he were conscious of playing a part above his real claims. Even when he was foolish and impious enough to arrogate miraculous powers, and a mission from God, his language showed that he thought there was something in his character and exploits to give a color to his blasphemous pretensions. The empire of the world seemed to him to be in a measure his due, for nothing short of it corresponded with his conceptions of himself; and he did not use mere verbiage, but spoke a language to which he gave some credit, when he called his successive conquests 'the fulfilment of his destiny.'

This spirit of self-exaggeration wrought its own misery, and drew down upon him terrible punishments; and this it did by vitiating and perverting his high powers. First, it diseased his fine intellect, gave imagination the ascendancy over judgment, turned the inventiveness and fruitfulness of his mind into rash, impatient, restless energies, and thus precipitated him into projects, which, as the wisdom of his counsellors pronounced, were fraught with ruin. To a man whose vanity took him out of the rank of human beings, no foundation for reasoning was left. All things seemed possible. His genius and his fortune were not to be bounded by the barriers which experience had assigned to human powers. Ordinary rules did not apply to him. His imagination, disordered by his egotism, and by unbounded flattery, leaped over appalling obstacles to the prize which inflamed his ambition. He even found excitement and motives in obstacles, before which other men would have wavered; for these would enhance the glory of triumph, and give a new thrill to the admiration of the world. Accordingly he again and again plunged into the depths of an enemy's country,

and staked his whole fortune and power on a single battle. To be rash was indeed the necessary result of his self-exalting and self-relying spirit; for to dare what no other man would dare, to accomplish what no other man would attempt, was the very way to display himself as a superior being in his own and others' eyes. To be impatient and restless was another necessary issue of the attributes we have described. The calmness of wisdom was denied him. He who was next to omnipotent in his own eyes, and who delighted to strike and astonish by sudden and conspicuous operations, could not brook delay, or wait for the slow operations of time. A work which was to be gradually matured, by the joint agency of various causes, could not suit a man who wanted to be felt as the great, perhaps only, cause; who wished to stamp his own agency in the most glaring characters on whatever he performed; and who hoped to rival by a sudden energy the steady and progressive works of nature. Hence so many of his projects were never completed, or only announced. They swelled, however, the tide of flattery, which ascribed to him the completion of what was not yet begun; whilst his restless spirit, rushing to new enterprises, forgot its pledges, and left the promised prodigies of his creative genius to exist only in the records of adulation. Thus the rapid and inventive intellect of Buonaparte was depraved, and failed to achieve a growing and durable greatness, through his self-exaggerating spirit. It reared indeed a vast and imposing structure, but disproportioned, disjointed, without strength, without foundations. One strong blast was enough to shake and shatter it; nor could his genius uphold it. Happy would it have been for his fame, had he been buried in its ruins.

One of the striking properties of Buonaparte's character was decision; and this, as we have already seen, was perverted, by the spirit of self-exaggeration into an inflexible stubbornness, which counsel could not enlighten, nor circumstances bend. Having taken the first step, he pressed onward. His purpose he wished others to regard as a law of nature, or a decree of destiny. It must be accomplished. Resistance but strengthened it; and so often had resistance been overborne, that he felt as if his unconquerable will, joined to his matchless intellect, could vanquish all things. On such a mind the warnings of human wisdom and of Providence were spent in vain; and the man of destiny lived to teach others, if not himself, the weakness and folly of that all-defying decision, which arrays the purposes of a mortal with the immutableness of the counsels of the Most High.

A still more fatal influence of the spirit of self-exaggeration which characterised Buonaparte remains to be named. It depraved to an extraordinary degree his moral sense. It did not obliterate altogether the ideas of duty, but, by a singular perversion, it impelled him to apply them exclusively to others. It never seemed to enter his thought that he was subject to the great obligations of morality, which all others are called to respect. He was an exempted being. Whatever stood in his way to empire

he was privileged to remove. Treaties only bound his enemies. No nation had rights but his own France. He claimed a monopoly in perfidy and violence. He was not naturally cruel; but, when human life obstructed his progress, it was a lawful prey, and murder and assassination occasioned as little compunction as war. The most luminous exposition of his moral code was given in his counsels to the king of Holland:—'Never forget, that in the situation to which my political system and the interests of my empire have called you, your first duty is towards me, your second towards France. All your other duties, even those towards the people whom I have called you to govern, rank after these.' To his own mind, he was the source and centre of duty. He was too peculiar and exalted to be touched by that vulgar stain, called guilt. Crimes ceased to be such when perpetrated by himself. Accordingly he always speaks of his transgressions as of indifferent acts. He never imagined that they tarnished his glory, or diminished his claim on the homage of the world. In St. Helena, though talking perpetually of himself, and 'often reviewing his guilty career, we are not aware that a single compunction escapes him. He speaks of his life as calmly as if it had been consecrated to duty and beneficence, whilst in the same breath he has the audacity to reproach unsparringly the faithlessness of almost every individual and nation with whom he had been connected. We doubt whether history furnishes so striking an example of the moral blindness and obduracy to which an unbounded egotism exposes and abandons the mind.

His spirit of self-exaggeration was seen in his openness to adulation. Policy indeed prompted him to put his praises into the mouths of the venal slaves who administered to his despotism. But flattery would not have been permitted to swell into exaggerations, now nauseous, now ludicrous, and now impious, if, in the bosom of the chief, there had not lodged a flatterer who sounded a louder note of praise than all around him. He was remarkably sensitive to opinion, and resented as a wrong the suppression of his praises. The press of all countries was watched, and free states were called upon to curb it for daring to take liberties with his name. Even in books published in France, on general topics, he expected a recognition of his authority. Works of talent were suppressed, when their authors refused to offer incense at the new shrine. He wished indeed to stamp his name on the literature, as on the legislation, policy, warfare of his age, and to compel genius, whose pages survive statues, columns, and empires, to take a place among his tributaries.

We close our view of Buonaparte's character, by saying, that his original propensities, released from restraint, and pampered by indulgence, to a degree seldom allowed to mortals, grew up into a spirit of despotism as stern and absolute as ever usurped the human heart. The love of power and supremacy absorbed, consumed him. No other passion, no domestic attachment, no private friendship, no love of pleasure, no relish for letters or the arts, no human sympathy, no

human weakness, divided his mind with the passion for dominion and for dazzling manifestations of his power. Before this, duty, honor, love, humanity fell prostrate. Josephine, we are told, was dear to him; but the devoted wife, who had stood firm and faithful in the day of his doubtful fortunes, was cast off in his prosperity, to make room for a stranger, who might be more subservient to his power. He was affectionate, we are told, to his brothers and mother; but his brothers, the moment they ceased to be his tools, were disgraced; and his mother, it is said, was not allowed to sit in the presence of her imperial son. He was sometimes softened, we are informed, by the sight of the field of battle strown with the wounded and dead. But, if the Moloch of his ambition claimed new heaps of slain to-morrow, it was never denied. With all his sensibility he gave millions to the sword, with as little compunction as he would have brushed away so many insects, which had infested his march. To him all human will, desire, and power, must bend. His superiority none might question. He insulted the fallen, who had contracted the guilt of opposing his progress; and not even woman's loveliness, and the dignity of a queen, could give shelter from his contumely. His allies were his vassals, nor was their vassalage concealed. Too lofty to use the arts of conciliation, preferring command to persuasion, overbearing, and all-grasping, he spread distrust, exasperation, fear, and revenge through Europe; and, when the day of retribution came, the old antipathies and mutual jealousies of nations were swallowed up in one burning purpose to prostrate the common tyrant, the universal foe.

Such was Napoleon Buonaparte. But some will say, he was a great man. This we mean not to deny. But we would have it understood, that there are various kinds or orders of greatness, and that the highest did not belong to Buonaparte. There are different orders of greatness. Among these, the first rank is unquestionably due to moral greatness or magnanimity; to that sublime energy by which the soul, subdued by the love of virtue, binds itself indissolubly, for life and for death, to truth and duty; espouses as its own the interests of human nature; scorns all meanness and defies all peril; hears in its own conscience a voice louder than threatenings or thunders; withstands all the powers of the universe which would sever it from the cause of freedom, virtue, and religion; reposes an unflinching trust in God in the darkest hour, and is ever ready to be offered on the altar of its country or of mankind. Of this moral greatness, which throws all other forms of greatness into obscurity, we see not a trace or spark in Napoleon. Though clothed with the power of a God, the thought of consecrating himself to the introduction of a new and higher era, to the exaltation of the character and condition of his race, seems never to have dawned on his mind. The spirit of disinterestedness and self-sacrifice appeared not to have waged a moment's war with self-will and ambition. His ruling passions, indeed, were singularly at variance with magnanimity. Moral greatness has too much simplicity, is too unostentatious, too

self-subsistent, and enters into others' interests with too much heartiness, to live a day for what Napoleon always lived, to make itself the theme, and gaze, and wonder of a dazzled world. Next to moral, comes intellectual greatness, or genius in the highest sense of that word; and by this we mean that sublime capacity of thought, through which the soul, smitten with the love of the true and the beautiful, essays to comprehend the universe, soars into the heavens, penetrates the earth, penetrates itself, questions the past, anticipates the future, traces out the general and all-comprehending laws of nature, binds together, by innumerable affinities and relations, all the objects of its knowledge, and, not satisfied with what exists and with what is finite, frames to itself ideal excellence, loveliness, and grandeur. This is the greatness which belongs to philosophers, inspired poets, and to the master spirits in the fine arts. Next comes the greatness of action; and by this we mean the sublime power of conceiving and executing bold and extensive plans; of constructing and bringing to bear on a mighty object, a complicated machinery of means, energies, and arrangements, and of accomplishing great outward effects. To this head belongs the greatness of Buonaparte, and that he possessed it we need not prove, and none will be hardy enough to deny. A man who raised himself from obscurity to a throne, who changed the face of the world, who made himself felt through powerful and civilised nations, who sent the terror of his name across seas and oceans, whose will was pronounced and feared as destiny, whose donatives were crowns, whose antechamber was thronged by submissive princes, who broke down the awful barrier of the Alps and made them a highway, and whose fame was spread beyond the boundaries of civilisation to the steppes of the Cossack, and the deserts of the Arab; a man, who has left this record of himself in history, has taken out of our hands the question, whether he shall be called great. All must concede to him a sublime power of action, an energy equal to great effects.

We are not disposed, however, to consider him as pre-eminent even in this order of greatness. War was his chief sphere. He gained his ascendancy in Europe by the sword. But war is not the field for the highest active talent, and Napoleon, we suspect, was conscious of this truth. The glory of being the greatest general of his age would not have satisfied him. He would have scorned to take his place by the side of Marlborough or Turenne. It was as the founder of an empire, which threatened for a time to comprehend the world, and which demanded other talents besides that of war, that he chal-

lenged unrivalled fame. And here we question his claim. Here we cannot award him supremacy. The project of universal empire, however imposing, was not original. The revolutionary governments of France had adopted it before; nor can we consider it as a sure indication of greatness, when we remember that the weak and vain mind of Louis XIV. was large enough to cherish it. The question is, did Napoleon bring to this design the capacity of advancing it by bold and original conceptions, adapted to an age of civilisation, and of singular intellectual and moral excitement? Did he discover new foundations of power? Did he frame new bonds of union for subjugated nations? Did he discover, or originate, some common interests by which his empire might be held together? Did he breathe a spirit which should supplant the old national attachments, or did he invent any substitutes for those vulgar instruments of force and corruption, which any and every usurper would have used? Never in the records of time did the world furnish such materials to work with, such means of modelling nations afresh, of building up a new power, of introducing a new era, as did Europe at the period of the French revolution. Never was the human mind so capable of new impulses. And did Napoleon prove himself equal to the condition of the world? Do we detect one original conception in his means of universal empire? Did he seize on the enthusiasm of his age, that powerful principle, more efficient than arms or policy, and bend it to his purpose? What did he do but follow the beaten track? but apply force and fraud in their very coarsest forms? Napoleon showed a vulgar mind, when he assumed self-interest as the sole spring of human action. With the sword in one hand, and bribes in the other, he imagined himself absolute master of the human mind. The strength of moral, national, and domestic feeling, he could not comprehend. The finest, and, after all, the most powerful elements in human nature, hardly entered into his conceptions of it; and how then could he have established a durable power over the human race? We want little more to show his want of originality and comprehensiveness as the founder of an empire than the simple fact, that he chose as his chief counsellors Talleyrand and Fouché, names which speak for themselves. We may judge of the greatness of the master spirit, from the minds which he found most congenial with his own. In war Buonaparte was great; for he was bold, original, and creative. Beyond the camp he indeed showed talent, but not superior to that of other eminent men.

NAPOLÉON, CODE DE. The existing law of France may be said to have its entire foundation in this celebrated code; which, however, was not the sole production of the authorities of the empire, but was the result of alterations prescribed by the national assembly. This body, in 1791, ordered a code of civil laws to be drawn up which should be common to the whole king-

dom. The Convention continued the project; and Cambacères, the late arch-chancellor of France, had the courage to undertake the task.

The constitution of the year 3, restoring a degree of calm to the distracted state, Cambacères had the courage to present a project, on the 24th Prairial, year 4; but on the ballot for renewing a part of the council of 500, the lot to retire hav-

ing fallen upon him among others, this plan fell to the ground, and the newly-projected legislation lay dormant for three years. The time, however, was now approaching when his labors and perseverance were to be crowned with success; on the 18th Brumaire, the extraordinary man, who was afterwards called to the empire, took the helm of France, and the new code of jurisprudence was instantly resumed.

Tronchet, Bigot, Preameneu, Maleville, and Portalis, were commissioned to draw up a plan, and discuss the basis of a civil legislation, following at the same time the order of the different projets presented by Cambaceres, for the purpose of its being laid before the nation. The commission was appointed on the 24th Thermidor, year 8; and on the 26th Ventose, year 9, the plan was printed. Before offering it for discussion to the council of state, it was submitted to the whole empire through the medium of the press, and by this means the general and individual observations of France were collected upon every head. The council of cassation was also particularly consulted. Sufficient time having been allowed for this purpose, the plans of the council of state were first discussed in its various sections, the section of legislation sitting upon the civil code. From this body it passed to the tribunate; here it was soon found impossible to get through it if each article were the subject of general debate; the tribunate therefore divided itself like the council of state, into sections or committees; and, if objections occurred to any part as it came before them, a conference was had, before either Cambaceres himself or the consul de Brun, between the section of the tribunate and the section of the council of state, to which this branch of legislation had been committed. Having been approved by both these bodies, it was referred to the legislative in titles, each decreed separately, and afterwards separately promulgated.

Supplementary articles might be added, but no essential alteration was to take place until it had been ten years tried; the advantages, the disadvantages, and the national opinions concerning it would then it was thought be known; in the mean time the tribunal of cassation rectified any material errors and wanderings of the inferior tribunals. Such is the short history of the code Napoleon. See FRANCE, vol. ix., p. 536. We shall only here add to the account the reader will find in that article an abstract of the mode in which the trial by jury has been introduced into this code. It thus prescribes—

1. *Who may be jurors.*—No person can fill the office of a juror under the age of thirty years complete, and who does not enjoy political and civil rights, on pain of the nullity of the proceedings.

Jurors shall be nominated, 1. From among the members of the electoral colleges. 2. From among the three hundred most respectable private gentlemen in the department. 3. From the functionaries of the administrative order. 4. From the doctors and licentiates of one or more of the four faculties of law, physic, sciences, and belles lettres, the members and correspondents of the institute and other learned societies. 5. From among notaries, bankers, merchants, and shop-keepers of the two first classes.

No person can be a juror in the same cause wherein he has been an officer of police, a witness, an interpreter, or other party.

The functions of a juror are incompatible with those of minister, prefect, subprefect, judge, procurator-general and imperial, and all their substitutes. They are equally incompatible with the duties of the ministers of public worship.

Counsellors of state entrusted with part of the administration, imperial commissaries acting in the administrations, and persons seventy years of age, are also exempt from this service.

Members of the senate, not coming within the above exceptions, may be called on to fulfil the functions of jurors, if they do not object. But they ought to be comprised only in the lists of jurors formed for the service of the courts of assize of Paris. The same applies to members of the council of state, and of the legislative body during their session.

Whosoever does not find himself in any of the classes above described, who is desirous of being admitted to the honor of filling the office of juror, may be comprised in the list, on requiring it of, and being approved by the prefect.

2. *Of their nomination and convention.*—The prefects shall form, subject to their responsibility, lists of jurors, as often as required by the presidents of the courts of assizes; such requisition being made a fortnight at least before the opening of the session.

In every case the list shall consist of sixty persons; it shall be addressed immediately to the president of the court of assizes, who shall reduce them to thirty-six within twenty-four hours, and then return the list to the prefect, who shall summon the jurors as soon as possible.

Every prefect shall send the list thus reduced to the chief judge, minister of justice, or first president of the imperial court. The whole list shall also be sent to each of the persons who compose it; but the prefect shall send to each of them an extract thereof, stating that his name is therein contained; which notification shall be delivered eight days at the least before that in which the list ought to serve.

Every juror in such list who shall have attended, shall not be included in the lists of four following sessions at least.

No citizen above thirty years of age shall be admitted to any administrative or judicial offices, unless he shall prove by a certificate from the officer of public administration, before the court of assize in the district where he resides, that he has attended and served as often as his name has been returned in the list of jurors; that the excuses made by him have been held valid, or that no requisition has ever been made to him.

3. *Of the formation of each jury.*—There shall be a new jury for every cause; thus, if in the same sitting the court is occupied in several different trials, there are to be drawn by lot as many times twelve jurors as there are causes to be tried; and to this effect there are to be put back into the urn, for each drawing, the twelve jurors drawn in the preceding draft.

The number of twelve jurors is necessary to form a jury.

The list of jurors shall be notified to each

accused person, on the eve of the day before his trial; and this notification shall be null, as well as all proceedings following on it, if made sooner or later.

In every case, if there shall be on the day appointed less than thirty jurors present, not excused, or not dispensed with, the number of thirty jurors shall be completed by the president of the court of assize. They shall be taken publicly, and by way of lot, from among the qualified citizens residing in the commune, for which purpose the prefect shall every year send to the court a complete list.

Every juror who shall not appear in his place on being called, shall pay for the first neglect 500 francs; for the second 1000 francs; and for the third 1500 francs. And shall also, for a third neglect, be declared incapable of exercising in future the functions of a juror, which order shall be printed and stuck up at his expense.

Those shall be excepted who prove that it was impossible for them to attend on the day appointed. The court shall determine on the validity of the excuse. The fines, above specified, are also applicable to every juror, who having appeared in his place shall have retired before the breaking up of the court, without a valid excuse.

On the day appointed, and for every cause, the list of jurors shall be called over before the opening of the court, in presence of the accused, and of the procurator-general. The name of each juror, on answering to his name, shall then be deposited in an urn.

4. *Of the challenge.*—The accused first, and afterwards the procurator-general, shall challenge such jurors as they think proper, and without assigning any reason, as their names are drawn successively out of the urn.

The chief, or foreman of the jury, shall be the first juror drawn by the lot, or one appointed by the jurors. Thus, when the foreman designated by lot shall not think proper to sign or pronounce the verdict of the jury, they may nominate another foreman.

The challenges of the accused, and the procurator-general, shall stop when there remain in the urn only twelve jurors. The accused and the procurator-general may make an equal number of challenges; but, if the jurors be of an unequal number, the accused may challenge one more than the procurator-general.

If there be several accused, they may join in their challenges, or make them separately. In either case, they shall not exceed the number of challenges for a single accused.

If the accused do not agree in their challenges, a lot shall determine between them the order in which they shall make them. In this case, the jurors challenged by a single one, and in that order, shall be for all, until the number of challenges be exhausted. The accused may join in making part of the challenges, the remainder being determined according to the order fixed by lot.

The trial of the accused shall commence immediately after the formation of the panel. If from any circumstance the trial of the accused, as to the offences or some of the offences, shall be put off to the session following, there shall be

another list, with fresh challenges, and a new panel shall be formed of twelve jurors.

5. *Of the trial.*—On the day fixed for opening the assizes, the court having taken their seats, the twelve jurors shall place themselves in the order determined by their lot, on seats separated from the public, the parties and witnesses, and opposite to the accused.

The accused shall appear without fetters, but attended by officers to prevent his escape. The president shall enquire his name, Christian name, age, profession, residence, and birth-place.

The president shall swear each of the jurors standing and uncovered, with the oath following:—

‘ You swear and promise, before God and man, to examine with the most scrupulous attention the charges which shall be brought against N., neither to betray the interests of the accused, nor those of society by which he is accused; to have no communication with any person until after your verdict; not to be influenced either by hatred or malice, fear or affection; to decide according to the evidence and defence; according to your own conscience and complete conviction; and with the impartiality and firmness which becomes a freeman.’

Each of the jurors, named individually by the president, shall answer, holding up his hand—this I swear.

The president shall then recite to the accused the contents of the act of accusation, or indictment, and say to him—‘ You hear what you are accused of, and attend to the charges which will be produced against you.’

The procurator-general shall then explain the subject of the accusation; he shall present the list of witnesses to be examined, whether at his request, or that of the private prosecutor, or on that of the accused, which list shall be read with an audible voice by the registrar. It shall only contain the witnesses whose names, professions, and residence have been notified twenty-four hours at least before their examination, to the accused by the procurator general or the private prosecutor, and to the procurator general by the accused.

The accused, and the procurator-general may, in consequence, oppose the addition of any witness who has not been notified, or not distinctly described in the previous notification.

The examinations, and the proceedings, once entered upon, shall be continued without interruption, until after the jury shall have delivered their verdict. The president cannot suspend them, but during the intervals absolutely necessary for the repose of the judges, jurors, witnesses, and accused.

6. *Of the witnesses.*—The president shall order the witnesses to retire to apartments destined for them, which they shall not quit, except to deliver their evidence. The president shall also take care, if necessary, to prevent the witnesses from conferring together.

The witnesses shall depose in court separately, one after the other, in the order established by the procurator general. Before their depositions, they shall take on the pain of nullity, an oath to speak without hatred and without fear;

to tell the whole truth, and nothing but the truth.

After each examination, the president shall ask the witness if it be of the present accused that he means to speak; he shall afterwards ask the accused, if he wishes to answer what has been said against him. The witness shall not be interrupted. The accused, or his counsel, may cross examine him through the medium of the president after his deposition, and state every thing against him, or his testimony, which may operate in defence of the accused; and the president may require, both from the witness and the accused, all the explanations necessary to arrive at the truth.

Every witness after his deposition shall remain in court, unless the president order otherwise, until the jurors have retired to give their verdict.

After hearing the witnesses produced by the procurator-general, and the private prosecutor, the accused may bring forward those notified by him, either in respect of the facts stated in the act of accusation, or to testify that he is a man of irreproachable conduct.

The following cannot be received as witnesses :—

1. The father, mother, grandfather, grandmother, or other ascendant of the accused; or of any of those jointly accused and subject to the same exception.
2. The son, daughter, grandson, granddaughter, or other descendant.
3. Brothers and sisters.
4. Husband or wife even after divorce.
5. Informers or police-officers, whose information is recompensed pecuniarily by law.

But the examination of the persons above described shall not operate as a nullity when not opposed. Informers not recompensed pecuniarily by law may be examined as witnesses, but the jury shall be informed of their being informers.

The witnesses, by whatever party called, shall not be allowed to confer together. The accused may require, after they have deposed, that those he shall specify may quit the court, and that one or more of them shall be introduced and examined anew, either separately or in the presence of each other. The procurator-general shall have the same privilege. The president may also order it officially.

The president may before, during, or after the examination of a witness, order one or more of the accused to retire, and examine them separately on particular points; but he shall take care to inform each of the accused of what has been said in his absence.

During the examination, the jurors, procurator-general, and judges, shall take notes of what appears to them important, either in the depositions of the witnesses, or the defence of the accused.

If after the examination the testimony of a witness shall appear false, the president may, on the requisition either of the procurator-general, the private prosecutor, or the accused, or even officially order the witness to be taken into custody.

7. *Conclusion.*—After the depositions of the

witnesses, and the respective remarks which their evidence has occasioned, the private prosecutor, or his counsel, and the procurator-general, shall be heard in support of the prosecution. The accused and his counsel may answer. The private prosecutor, or procurator general, are permitted to reply, but the accused, or his counsel, shall always be entitled to speak last.

The president shall then recapitulate the proceedings to the jury, and narrate the principal evidence for or against the accused. He shall admonish them in regard to the duties they have to fulfil, and put the following questions to them.

The question arising out of the act of accusation shall be conceived in these terms :—

Is the accused guilty of having committed such a murder, robbery, or other crime, with all the circumstances described in the indictment?

If there arise during the proceedings one or more aggravating circumstance, not specified in the indictment, the president shall add the question following :—

Has the accused committed the crime under such or such circumstances?

When the accused shall propose as a defence, a fact acknowledged as a justification by law, a question shall be put thus :—

Is such a fact established?

If the accused be under sixteen years, the president shall put this question :—

Did the accused act with discernment?

The president, after having proposed these questions, shall hand the same in writing to the jury, through their foreman; he shall deliver, at the same time, the indictment, and all the documents beside the written declarations and oral testimonies. And he shall admonish the jurors, that if the accused is declared guilty of the principal fact only by a majority, the same must be mentioned at the head of their verdict.

8. *Of the verdict of the jury.*—The jury shall then retire to their apartment to deliberate; but previously the foreman shall read to them the instruction following, which shall also be posted, in large characters, on the most conspicuous part of the room.

The code of criminal instruction, article 342, directs juries to be aware,

That the law does not require of them to explain how they are convinced, nor prescribe rules by which they ought particularly to weigh the quantity or sufficiency of any proof, but merely requires of them to examine their own minds and consciences, in regard to the impression that has been produced on their judgment by the evidence adduced against the accused, and in his defence; and that the law does not say, You shall deem that to be truth which you have heard attested by such or such a number of witnesses, or by such and such documents; but it requires of you simply that which constitutes the entire sum of your duties, that you should yourselves be fully convinced. It is at the same time essential that you never forget, that all the deliberation of a jury is to be confined to the actual accusation; and that on the facts connected with it, or depending upon it alone, you are solely to decide.

The jurors shall not quit their chamber until they have agreed in their verdict, and no person shall be permitted to enter during their deliberations on any account whatever.

The court may punish a juror for contravening this regulation by a fine of 500 francs, or more. All others opposing the order, or the person executing the same, shall be punished by imprisonment.

The jurors having deliberated on the principal fact, and afterwards on each of its circumstances, the foreman shall interrogate them as follows, and each juror shall answer accordingly :—

1. If the juror think that the fact is not established, or that the accused is innocent of it, he will answer, The accused is not guilty.

2. If he think that the fact is established, he shall say, The accused is guilty of having committed the crime with all the circumstances.

3. If he think that the fact is established, and the accused guilty of it, but that proof is wanting of the criminal intention, he shall say, The accused is guilty of having committed the fact, but it is not established that he has done so with the criminal intention ascribed.

4. If he think that the fact is established, and that the accused is guilty of it, but that some of the circumstances are not proved, he shall say, The accused is guilty, but without some of the circumstances.

The decision of the jury shall be pronounced for or against the accused ; and, in case of an equal number of voices, the decision shall be held in favor of the accused.

The jurors shall then return into court and take their places. The president shall require the result of their deliberations. The foreman of the jury shall rise, and placing his hand on his heart, shall say, On my honor, and my conscience, before God and man, the verdict of the jury is—Yes, the accused is, &c. Or, No, the accused is, &c.

The verdict of the jury shall be written and signed by the foreman, and delivered by him to the president, in presence of the jurors. The president shall sign the same, and cause it to be entered by the registrar.

The verdict of the jury shall not be subject to any other review.

But, if the accused be declared guilty by a majority only, the judges shall deliberate together on the same point : and if the opinion of the minority of the jurors be adopted by the majority of the judges, so that adding the number of voices, that number shall exceed that of the majority of the jurors and the minority of the judges, the decision shall be in favor of the accused.

If the judges be unanimously convinced that the jurors, while completely observing the forms, have been fundamentally mistaken in their verdict ; the court shall declare that there has been an error in judgment, and shall refer the question to the next session, to be tried by another jury, of which none of the former jurors shall form a part.

This measure can only be ordered by the court officially, and immediately after the verdict of the jury is publicly declared, and the accused is

found guilty, but never when he is declared not guilty.

The court shall be obliged to pronounce immediately after the decision of the second jury, even though it should be conformable to the former.

The president shall then order the accused to be brought into court, and the registrar shall, in his presence, read the verdict of the jury.

When the accused is declared not guilty, the president shall pronounce him acquitted of the accusation, and order him to be set at liberty, unless he is detained on some other previous accusation.

The accused, being acquitted, shall receive satisfaction for his loss of time and character.

9. *Of the judgment.*—The accused being declared guilty, the procurator general shall require the court to pass the sentence of the law. The private prosecutor shall make his claim for restitution and damages.

The president shall ask the accused if he has any thing to state in his defence ?

The accused or his counsel cannot plead that the fact is false, but only that the offence is not forbidden, or is qualified by the law ; or that he does not deserve the punishment applied for by the procurator-general ; or that it does not carry damages for the benefit of the private prosecutor ; or, lastly, that the damages claimed are more than are due.

The court shall declare the accused absolved, if the fact of which he is declared guilty is not forbidden by a penal law. But, if the fact is forbidden, the court shall pronounce the punishment established by law. Only in cases of conviction for several crimes, can the most severe punishment be pronounced.

In like manner, in case of acquittal, the court shall decree on the damages claimed by the private prosecutor, or the accused ; shall liquidate them by the same decree, or refer it to one of the judges to hear the parties ; take cognisance of the documents, and make a report of the whole. The court shall also order that any effects seized shall be restored to the proprietor.

Before pronouncing sentence the president shall read the text of the law on which it is founded. The registrar shall read the decree : he shall also insert the text of the law applied, under pain of a fine of 100 francs. The minute of the decree shall be signed by the judges, under the penalty of a fine of 100 francs against the registrar.

NAPOLI DI MALVASIA, or MENGESCHE, is a town of Greece, situated on the small peninsula, or rather island, of Minoa, in the Morea, which is connected with the main land by a bridge of twelve arches. It has a good harbour, and is built amid the ruins of the ancient Epidaurus, and stands on a rock, the summit of which is crowned by a citadel. Here are the remains of a temple of Esculapius, and some structures in the Cyclopean style, i. e. of large stones without cement. The port, though well sheltered by hills, is somewhat insecure, but it is well frequented, and likely to become permanently a place of trade. It is the see of a metropolitan bishop. Population 6000. Fifty-five miles south by east of Napoli di Romania.

NAPOLI DI ROMANIA, the ancient Nauplia, is also a town of Greece, in the east of the Morea, on a gulf of this name. The harbour is capable of containing 150 ships of war. The town, situated on the south side of the port, is fortified, and stretches along the whole length of the promontory, and is a place of some activity in the corn, oil, wine, and cotton trade. It is the best built town of the Morea, but its situation is unhealthy, fevers being frequent. Population 6000.

NAPOLOUS, or **NAPLOSE**, a city of Palestine, the ancient Sichein, afterwards called Neapolis, is the metropolis of an extensive and fertile country. The bread there is said to be superior to any in the Levant; and its water melons have a delicious flavor. Dr. Clarke says there is nothing finer in the Holy Land than the view of Napolous from the heights. The chief manufacture is soap; but other articles of common use are to be procured. It is frequented by caravans from Egypt and the neighbouring countries. Here are shown the tombs of Joshua and Joseph; and Jacob's well is about three miles on the road to Jerusalem. This place is twenty-four miles north of Jerusalem.

NARAINGUNGE, a large town of the district of Dacca, Bengal. It is situated on the western bank of the Luckia, a branch of the Brahmapootra, and carries on an extensive commerce in grain, salt, tobacco, lime, and a fine muslin, made here. During the rainy season the adjoining country is inundated. It contains the remains of many fortresses, which were raised in the seventeenth century, to protect the country against the Mughls or Arracauners. On the opposite side of the river is Cuddumresoul, a place of Mahometan pilgrimage. Here is shown the impression of a foot on a stone, which his followers are taught to believe is that of the prophet. Naraingunge is about an equal distance from the ancient capitals of Sunergaum and Dacca. Population 15,000. Long. 90° 35' E., lat. 23° 37' N.

NARAINGUR, a town of Midnapore, Bengal, was formerly surrounded by a thick wood, defended by batteries, much of which has been cleared away. During the wars between the Afghans, Moguls, and Mahrattas, these were found defences of great utility as a refuge for the peasants, with their families and cattle. The neighbourhood abounds with game. Long. 87° 35' E., lat. 22° 11' N.

NARANJAL, or **NARANJOS**, are two islands of the Pacific, in the gulf of Panama. The largest is five leagues long from north to south, and is desert; five leagues from the coast of Panama. There are several settlements of this name in South America, and a river in Peru, which enters the Pacific, near the mouth of the river Guayaquil, in the gulf of its name. Lat. 2° 28' S.

NARBO, in ancient geography, a town of the Volcæ Tectosages, called also Narbo Martius, from the Legio Martia, the colony led thither fifty-nine years before the consulate of Cæsar (Velleius), increased with a colony of the Decumania, or tenth legion, by Cæsar. An ancient trading town on the Atax, which runs into the sea through the Lacus Rubresus, or Rubrensis,

capital of the Gallia Narbonensis, surnamed Colonia Julia Paterna, from Julius Cæsar. Now called Narbonne.

NARBONNE, or **NARBO**, a large and very ancient post town, and the chief place of an arrondissement, in the department of the Aude, France, containing 10,258 inhabitants. It has an inferior court of judicature, a board of trade, an agricultural society, and a school of hydrography of the fourth class. This town is situated in a hollow, on the canal or Roubine of Narbonne, which communicates with the ocean by means of the southern canal, and with the Mediterranean by the lake of Bages or of Sijeau. It is for the most part badly built; but its cathedral, museum, and public baths, are worthy of notice. It was a celebrated place three centuries before the Christian era, and at that time gave its name to the whole country from the Alps to the Pyrenees, particularly to that along the banks of the Rhone to those mountains, which was called Gallia Narbonensis by the Romans. Under their dominion it was adorned with a capitol, a circus, several temples, and public baths; most of these, however, have been destroyed in the sieges which this town has had to sustain in different ages; their ruins are yet to be discerned in the walls of the town, as well as in those of the public buildings and private houses, and still serve to show its ancient splendor. This place, in the reign of Antoninus Pius, was almost consumed in a dreadful fire. Brandy, spirits, verdigris, marine salt, earthenware, bricks, tiles, and plaster, are made here; there are also silk-mills, tan-yards, and dye-houses. The trade consists in corn, dry vegetables, red and white wines, brandy, oil, wax, saltpetre, and excellent honey, which is procured in the country round Narbonne, and bears its name. It is forty-six miles east of Carcassone, forty-two north of Perpignan, and 600 south of Paris, by the way of Toulouse.

NARCIS'SUS, *n. s.* Latin *narcissus*; Greek *ναρκισσος*; *Fr. narcisse*. A daffodil.

Nor Narcissus fair

As o'er the fabled fountain hanging still.

Thomson.

NARCIS'SUS, in botany, a genus of the monogynia order, and hexandria class of plants: natural order ninth, spathaceæ. There are six petals: the nectarium is funnel-shaped and monophyllous; the stamina are within the nectarium. The most remarkable species are these:

N. bicolor, the double-colored incomparable narcissus, has a large, oblong, bulbous root, crowned with long, narrow, dark-green leaves, twelve or fourteen inches long; an upright flower-stalk, about fifteen inches high, terminated by a uniflorous spathe, protruding one large flower with white petals, and a bell-shaped, spreading, golden nectarium, waved on the margin, and equal in length with the corolla; flowering in April. The varieties are common single-flowered; semi-double-flowered, with the interior petals some white and some yellow; with sulphur-colored flowers.

N. bulbocodium, with a small bulbous root, crowned with several narrow, subulate, rush-like leaves, six or eight inches long; amidst them a slender, taper flower-stalk, six inches high, ter-

minated by a uniflorous spathe, protruding one yellow flower, having the nectarium much larger than the petals, and very broad and spreading at the brim; flowering in April. From the large spreading nectarium of this species, which is three or four times longer than the petals, narrow at bottom, and widening gradually to the brim, so as to resemble the shape of some old-fashioned hoop-petticoats, it obtained the name of hoop-petticoat narcissus.

N. calathinus, the multiflorous yellow narcissus, has a large bulbous root, crowned with long, narrow, plain leaves; and amidst them an erect, robust flower-stalk, terminated by a multiflorous spathe, protruding many large, entire, yellow flowers, having a bell-shaped, slightly crenated nectarium, equal in length with the petals.

N. jonquilla, the jonquil, sometimes called rush-leaved daffodil, has an oblong, bulbous, brown root, sending up several long, semi-taper, rush-like, bright green leaves; amidst them an upright green flower-stalk, a foot or fifteen inches high; terminated by a multiflorous spathe, protruding many yellow flowers, often expanded like a radius, each having a hemispherical, crenated nectarium, shorter than the petals; flowering in April, and mostly of a fine fragrance. The varieties are jonquil minor with single flowers; jonquil major with single flowers; stary flowered; yellow and white flowered; white-flowered; semi-double-flowered; double-flowered; and large double inodorous jonquil; all multiflorous, the single in particular; but sometimes the doubles produce only two or three flowers from a spathe, and the singles commonly six or eight. All the sorts have so fine a shape, so soft a color, and so sweet a scent, that they are some of the most agreeable spring flowers.

N. minor, the yellow winter daffodil, has a small bulbous root; plain leaves eight or ten inches long, and more than half an inch broad; an erect flower-stalk, terminated by a uniflorous spathe, protruding one nodding yellow flower, with spear-shaped petals, having an oblong conic, six-parted, waved nectarium, equal to the length of the corolla; flowering in winter, or very early in spring.

N. nothus, the bastard narcissus, or common yellow English daffodil, grows wild in great plenty in woods and coppices, and under hedges in several parts of England. In the counties round London prodigious quantities are brought in spring, when in bloom, root and all, and sold about the streets. Though common, yet considered as an early and elegant flower, of exceeding hardness and easy culture, it merits a place in every garden.

N. odoros, the odoriferous, or sweet-scented stary yellow narcissus, has a bulbous root, narrow leaves, erect flower-stalk, a foot or more high, terminated by a sub-multiflorous spathe, protruding sometimes but one, and sometimes several, entirely yellow flowers, having a campanulated, six-parted, smooth nectarium, half the length of the petals.

N. poeticus, the poetic daffodil, or common white narcissus, is well known. Of this there are varieties with purple-cupped flowers; yellow-cupped flowers; double-flowered; all of

them with entire white petals. It is the ancient celebrated narcissus of the Greek and Roman poets, which they so greatly extol for its extreme beauty and fragrance.

N. serotinus, the late-flowering small autumnal narcissus, has a small bulbous root, crowned with a few narrow leaves; amidst them a jointed flower-stalk, eight or nine inches high, terminated by a uniflorous spathe, protruding one white flower, having a short, six-parted, yellow nectarium; flowering in autumn.

N. tazetta, the multiflorous daffodil, commonly called polyanthus narcissus, has a very large, roundish, bulbous root; long, narrow, plain leaves; an upright flower-stalk, rising from ten or twelve inches to a foot and a half high; terminated by a multiflorous spathe, protruding many large, spreading, white and yellow flowers, in a cluster, having bell-shaped nectariums shorter than the corolla; flowering in February, March, and April, and is very fragrant. The varieties of this are very numerous, consisting of about eight or nine principal sorts, each of which having many intermediate varieties, amounting in the whole greatly above 100 in the Dutch florists' catalogues, each variety distinguished by a name according to the fancy of the first raiser of it. They are all very pretty flowers, and make a charming appearance in the flower-borders, &c.; they are also finely adapted for blowing in glasses of water, or in pots, to ornament rooms in winter.

N. trilobus, the trilobate yellow narcissus, with a bulbous root; narrow rush-like leaves; erect flower-stalks, terminated by a sub-multiflorous spathe, protruding sometimes but one or two, and sometimes several, yellow flowers, have a bell-shaped, three lobed nectarium, half the length of the petals. All these species are of the bulbous-rooted tribe, and all perennial in root, but annual in leaf and flower-stalk; all rising annually in spring immediately from the crown of the bulb, first the leaves, and in the midst of them the flower-stalk, one only from each root, entirely naked or leafless, each terminated by a spathe or sheath, which opens on one side to protrude the flowers, and then withers; the flowers, as before observed, are all hexapetalous, each furnished with a nectarium in the centre, and are universally hermaphrodite; they are large and conspicuous, appearing mostly in spring from March until June, succeeded by ripe seeds in July; then the leaves and flower-stalks decay, and the roots desist from growing for some time; at which period of rest is the only proper time to take up or transplant the roots from one place to another, or to separate the off-sets; for they all multiply abundantly by off-set young bulbs from the main root, inasmuch that a single bulb will in one or two years be increased into a large cluster of several bulbs, closely placed together, and which every second or third year should be taken up at the above period in order to be separated; and each off-set so separated commences a distinct plant; which, being planted again in autumn, produces flowers the following summer, alike in every respect to those of their respective parent bulbs. All the species are so hardy that they prosper in any common soil of a garden;

only the finest sorts of the polyanthus narcissus require a warm dry situation; all the others may be planted any where in the open dry borders and flower-beds.

NARCISSUS, in fabulous history, the son of the river god Cephisus and Liriope, the daughter of Oceanus, was a youth of great beauty. Tiresias foretold that he should live till he saw himself. He despised all the nymphs of the country; and by refusing to return her passion, made Echo languish till she became a mere sound; but one day coming weary and fatigued from the chase, he stopped on the bank of a fountain to quench his thirst, when, seeing his own form in the water, he became so in love with the shadowy image, that he languished till he died. An excellent allegory on the folly of excessive self-love. On which the gods changed him into the flower which bears his name.

NARCONDAM, an uninhabited woody island in the Bay of Bengal, twenty-seven leagues east of the Great Andaman. It is small, but its peak may be seen at a great distance, and serves as a good land mark. Long. 94° 12' E., lat. 13° 25' N.

NARCOTIC, *adj.* French *narcotique*; Gr. *ναρκώω*. Producing torpor or stupefaction.

For he had yeven drinke his gayler so
Of a clare made of a certain wine,
Whith *narcotikes* and opie of Thebes fine,
That all the night though that men wold him shake,
The gailor slept, he might not awake.

Chaucer. Cant. Tales.

The ancients esteemed it *narcotick* or stupefactive, and it is to be found in the list of poisons by Dioscorides.

Broune.

Narcotick includes all that part of the materia medica which any way produces sleep, whether called by this name, or hypnoticks, or opiates.

Quincy.

NARCOTICS, in medicine, are sporiferous drugs. Among these the most eminent are those usually prepared for medicinal uses from the poppy: especially opium; as also all those prepared from mandragoras, hyoscyamus, stramonium, and datura.

NARD, *n. s.* Lat. *nardus*; Gr. *νάρος*; Heb. נרד. Spikenard; a kind of ointment.

Therefore Marye took a pound of oymement of trewe *narde*, precieuse, and anointide the feet of Jhesus, and wipte his feet with hir heeris.

Miltij. Jon. 12.

Smelt o' the bud o' the briar

Or the *nard* in the fire.

He now is come. *Ben Jonson's Underwood.*

Into the blissful field, through groves of myrrh,
And flowering odours, cassia, *nard*, and balm.

Milton.

NARDI (Jacopo), an Italian historian of a noble family, was born at Florence in 1476. In 1527 he was sent ambassador to Venice; and upon his return he distinguished himself by his opposition to the interests of the Medici, in consequence of which he was exiled, and he retired to Venice, where he passed the rest of his life. He wrote a party history of Florence from 1494 to 1531; it was not printed until 1582: also a Life of Malespini, and acquired great reputation by his Translation of Livy. He composed moreover *Canti Carnaschialeschi*; and *L'Almizizia*, a comedy in verse. He died about 1555.

NARDUS, in botany, spikenard, a genus of the monogynia order, and triandria class of plants; natural order fourth, gramina: CAL. none: COR. bivalved. This plant was highly valued by the ancients, both as an article of luxury and medicine. The unguentum nardinum was used at baths and feasts as a favorite perfume. Its value is evident from that passage of Scripture where our Saviour's head was anointed with a box of it, with which Judas found fault. From a passage in Horace it appears that this ointment was so valuable among the Romans that as much as could be contained in a small box of precious stone was considered as an equivalent for a large vessel of wine, and a proper quota for a guest to contribute at an entertainment, according to an ancient custom. The plant had a great character among the ancients as a medicine, both internally and externally. It has a place in the list of all antidotes, from those of Hippocrates to the officinals which have kept their ground until lately, under the names of Mithridate and Venice treacle. Galen and Alexander Trallian recommend it in the dropsy and gravel; Celsus and Galen in pains of the stomach and bowels, both internally and externally. Galen prescribed the oleum nardinum to the emperor Marcus Aurelius when afflicted with a cholera morbus. It was externally applied to the stomach on wool; and the success was so great that he ever afterwards enjoyed the confidence of that emperor. In a work attributed to Galen, also, it is mentioned that a medicine composed of this and some other aromatics was found useful in long protracted fevers; and the natives of India at present consider it as very efficacious in fevers. It has a pungency of taste superior to contrayerva, and little inferior to serpentaria. But though the name of this plant, as well as its uses and virtues, have long been familiar to the writings of botanists and physicians, the genus and species have not been long ascertained.

NARE, *n. s.* Lat. *naris*. A nostril; not used except in ridicule.

There is a Machiavelian plot,

Though every *nare* olfact it not. *Hudibras.*

NARES (Dr.), organist and composer to his majesty, and brother to judge Nares, was a studious and sound musician, who had distinguished himself at York as an organist and composer of anthems, before his advancement to the chapel royal in 1755, as successor to Travers. On the death of Bernard Gates, in 1757, he was appointed master of the choristers of his majesty's chapel; and his diligence in composing for the chapel, and instructing the children, acquired him great respect. Dr. Nares published, besides his choral compositions, several books of lessons for the harpsichord, a royal pastoral on his majesty's nuptials, and a useful elementary treatise on singing. He died in 1783.

NAREW, a river in the north-east of Poland, rising in the government of Grodno. It flows westward to Novogorod, then turns to the south, and joins the Bug, after which their united streams flow westward, till, at Nowydwor, they meet the Vistula.

NARNI, a town of the States of the Church,

forty miles north of Rome, in the province of Spoleto. It is a bishop's see, and situated on a hill; it has some good buildings but the streets are steep and winding. The Nera flows at a small distance, and is crossed by the remains of a magnificent bridge of uncemented stone, built in the reign of Augustus. The middle arch is about 100 feet in span. Population 5000.

NARNOUL, an independent district of Hindostan, in the province of Agra, situated between lat. 28° and 29° N. It belongs to several Hindoo chiefs. The principal towns are Narnoul and Rewary.

NARO, a strong town of the Val di Maz Zara, Sicily, and contains a population of 12,000 inhabitants, partly employed as mechanics and manufacturers, and partly in agriculture. It is thought to be the Motyum of Diodorus, but is seldom visited. Eleven miles east of Girgenti.

NARRAGANSET BAY, a bay of the Atlantic, on the coast of the United States, intersects the state of Rhode Island. It is about twenty-eight miles long and ten broad, and contains Rhode Island, with various other smaller ones.

NARRAGUAGUS, a bay on the coast of Maine, joining Machias Bay. It receives a river of the same name.

NARRATE, *v. a.*
 NARRATION, *n. s.*
 NARRATIVE, *adj. n. s.*
 NARRATIVELY, *adv.*
 NARRATOR, *n. s.*

Fr. *narrer*, *narration*, *narratif*; Ital. *narratione*; Spanish *narration*; Port. *narracio*; Lat. *narro*, *narratio*. To tell; relate: a narration is an account, relation, or history: and narrative, as a noun-substantive, is of the same signification; as an adjective it means relating; of the nature of a narration or account; apt to relate, or indulge in tales: narratively, by way of relation: narrator, a person who relates; a relater or teller.

They that desire to look into the narrations of the story, or the variety of the matter, we have been careful might have profit. 2 Mac. ii. 24.

He did doubt of the truth of that narration. Abbot.
 Eloquence is only not discouraged, when she serves for a client of truth: mere narrations are allowed in this oratory; not poems; not excursions; not glosses; truth must strip herself and come in naked to his bar. Bp. Hall.

Age, as Davenant says, is always narrative. Dryden.
 Cynthia was much taken with my narrative. Tatler.

In the instructions I give to others, concerning what they should do, take a narrative of what you have done. South.

To judicial acts credit ought to be given though the words be narrative. Ayliffe's Paeragon.

The words of all judicial acts are written narratively, unless it be in sentences wherein dispositive and enacting terms are made use of. Id.

Homer introduces the best instructions, in the midst of the plainest narrations. Browne on the Odyssey.

The poor, the rich, the valiant, and the sage, And boasting youth, and narrative old age. Pope.

Consider whether the narrator be honest and faithful, as well as skilful; whether he hath no peculiar gain or profit by believing or reporting it. Watts's Logic.

This commandment, containing among other things a narration of the creation of the world, is commonly read. White.

In all the virtues of narration, particularly in that of picturesque descriptive narration, several of the ancient historians eminently excel. Hence the pleasure that is found in reading Herodotus, Thucydides, Xenophon, Livy, Sallust, and Tacitus. They are all conspicuous for the art of narration. Blair.

Are we not continually informed that the author unravels the web of his intrigue, or breaks the thread of his narration? Canning.

NARROW, *adj. & v. a.*
 NARROWLY, *adv.*
 NARROWNESS, *n. s.*

Sax. *nȳr* (near), *neapu*. Small in breadth; contract-ed; near; used of time as well as space; and metaphorically, covetous; ungenerous; ignorant; close; vigilant: to narrow is to make small or smaller in breadth; to contract, confine, or limit: a horse is said to narrow when he does not take ground enough, and does not bear far enough out to the one hand or to the other (Farrier's Dictionary): the adverb and substantive follow all the senses of the adjective.

The angel stood in a narrow place, where was no way to turn either to the right hand or to the left. Numbers ii. 26.

In the wall he made narrowed rests, that the beams should not be fastened in the walls of the house. 1 Kings v. 6.

To narrow breasts he comes all wrapt in gain, To swelling hearts he shines in honour's fire. Sidney.

Edward from Belgia, Hath passed in safety through the narrow sea. Shakspeare.

My fellow-schoolmaster Doth watch Bianca's steps so narrowly. Id.
 Dazzled with the height of place, While our hopes our wits beguile, No man marks the narrow space, Between a prison and a smile. Bacon.

If it be narrowly considered, this colour will be reprehended or encountered, by imputing to all excellencies in compositions a kind of poverty. Id.

Cheap vulgar arts, whose narrowness affords No flight for thoughts, but poorly sticks at words. Denham.

Though the Jews were but a small nation, and confined to a narrow compass in the world, yet the first rise of letters and languages is truly to be ascribed to them. Wilkins.

The orb he roamed With narrow search; and with inspection deep Considered every creature, which of all Most opportune might serve his wiles. Milton.
 The most learned and ingenious society in Europe confess the narrowness of human attainments. Glanville.

From this narrow time of gestation may ensue a smallness in the exclusion; but this inferreth no infirmity. Browne.

A government, which by alienating the affections, losing the opinions, and crossing the interests of the people, leaves out of its compass the greatest part of their consent, may justly be said, in the same degrees it loses ground, to narrow its bottom. Temple.

Then Mnestheus to the head his arrow drove, But made a glancing shot and missed the dove; Yet missed so narrow, that he cut the cord, Which fastened by the foot the flitting bird. Dryden.

The Latin, a severe and compendious language, often expresses that in one word, which either the barbarity or the narrowness of modern tongues cannot supply in more. *Id.*

For a considerable treasure hid in my vineyard search narrowly when I am gone. *L'Estrange.*

How hard it is to get the mind, narrowed by a scanty collection of common ideas, to enlarge itself to a more copious stock. *Locke.*

That prince who should be so wise and godlike, as by established laws of liberty to secure protection and encouragement to the honest industry of mankind, against the oppression of power, and narrowness of party, will quickly be too hard for his neighbours. *Id.*

In a narrow bottomed ditch cattle cannot turn. *Mortimer.*

The greatest understanding is narrow. How much of God and nature is there whereof we never had any idea? *Grew.*

Nothing more shakes any society than mean divisions between the several orders of its members, and their narrow-hearted repining at others' gain. *Sprat.*

If God will fit thee for this passage, by taking off thy load, and emptying thy bags, and so suit the narrowness of thy fortune to the narrowness of the way thou art to pass, is there any thing but mercy in all this? *South.*

The hopes of good from those whom we gratify would produce a very narrow and stinted charity. *Smulridge.*

Desuetude does contract and narrow our faculties, so that we can apprehend only those things in which we are conversant. *Government of the Tongue.*

A salamander grows familiar with a stranger at first sight, and is not so narrow-spirited as to observe whether the person she talks to be in breeches or in petticoats. *Addison.*

Many malicious spies are searching into the actions of a great man, who is not always the best prepared for so narrow an inspection. *Id.*

In our Gothic cathedrals, the narrowness of the arch makes it rise in height, or run out in length. *Id. on Italy.*

By being too few, or of an improper figure and dimension, to do their duty in perfection, they become narrow and incapable of performing their native function. *Blackmore.*

Another disposition in men, which makes them improper for philosophical contemplations, is not so much from the narrowness of their spirit and understanding, as because they will not take time to extend them. *Burnet's Theory.*

I most find fault with his narrowing too much his own bottom, and his unwary sapping the foundation on which he stands. *Waterland.*

Lo! every finished son returns to thee;

Bounded by nature, narrowed still by art;

A trifling head, and a contracted heart. *Pope.*

It is with narrow-souled people as with narrow-necked bottles; the less they have in them the more noise they make in pouring it out. *Swift.*

The church of England is not so narrowly calculated, that it cannot fall in with any regular species of government. *Id.*

By admitting too many things at once into one question, the mind is dazzled and bewildered; whereas, by limiting and narrowing the question, you take a fuller survey of the whole. *Watts.*

They taught

That narrow views betray to misery;

That wise it is to comprehend the whole. *Young.*

For, in order to a true self-knowledge, the human

mind, with its various powers and operations, must be narrowly inspected; all its secret bendings and doublings displayed; otherwise our self-acquaintance will be but very partial and defective; and the heart after all will deceive us. *Mason.*

The mind that broods o'er guilty woes

Is like the scorpion girt by fire,

In circle narrowing as it glows,

The flames around their captive close;

Till inly searched by thousand throes,

And maddening in her ire,

One sad and sole relief she knows. *Byron.*

NARROWS, THE, a channel between Long Island and Staten Island, United States, connecting New York Bay with the Atlantic, nine miles south of New York. It is 1905 yards wide, and well defended by forts and batteries.

NARSES, a celebrated eunuch under Justinian I. From the domestic service of the palace, and the administration of the private revenue, he rose to the head of an army. A feeble diminutive body concealed the soul of a statesman and a warrior, and the faculties of a vigorous and discerning mind. He studied in the palace to flatter, and, when he approached the emperor, Justinian listened with surprise to the many counsels of his chamberlain. The talents of Narses were tried and improved in frequent embassies: he led an army into Italy, acquired a practical knowledge of the war and the country, and presumed to emulate Belisarius. Twelve years after his return the eunuch was appointed to achieve the conquest which had been left unfinished by the first of the Roman generals. Narses defeated the Goths, Franks, and Alemanni; the Italian cities opened their gates to him, he entered Rome in triumph, and, having established the seat of his government at Ravenna, continued fifteen years to govern Italy under the title of exarch. His ruling vice was avarice. He accumulated treasure by means oppressive and unpopular; and the general discontent was expressed by the deputies of Rome, before Justinian. They holdly declared that their Gothic servitude had been more tolerable than the despotism of a Greek eunuch; and that, unless their tyrant was instantly removed, they would choose another master. Thus was his disgrace the effect of the people's disaffection. He died about A. D. 567, aged ninety-five.

NARVA, a small town of European Russia, in the government of St. Petersburg, on the Narova, near the gulf of Finland. It was built in 1224, and taken by the Muscovites from the Danes in 1558. In 1581 it was taken by the Swedes. Near it Charles XII., in 1700, in his nineteenth year, defeated the Russians, who lost 6000 men killed and drowned, besides many prisoners, and all their artillery: his force is said to have been but 9000, opposed to 32,000 of the enemy. But in 1705 it was retaken by Peter the Great, who, though he took it by storm, prevented his soldiers from pillaging it, and even killed two of them who would not desist from plunder. It exports timber, hemp, flax, and corn; and imports salt, wine, herrings, tobacco, and groceries. Population 3600. It is eighty-three miles south-west of Petersburg.

NARWAR, or **NARAVARA,** a town and district in the southern quarter of the Agra Pro-

vince, situated principally between lat. 25° and 26° N. Its surface is hilly and woody, but the soil is rich in many parts, and, when well cultivated, extremely productive. The Sinde is the principal river. The town is situated on the south-east side of the Sinde, in lat. 25° 41' N., long. 78° 12' E., and is of considerable antiquity, having been conquered by the Mahometans in 1251. It subsequently recovered its independence, and was taken from its Hindoo prince by Sultan Secunder-Lodi in 1509. At the late peace with the Mahrattas, the fort and district of Narwar were guaranteed by the British government to Rajah Umbajee Row; at which period the revenue was about ten lacks of rupees. In 1810 the place was surrendered to Dowlet Row Sindia. Other towns of the district are Collarass and Shepoory.

NAR'WHALE, *n. s.* Goth. *narwhal* (*nar* being a snout.) A species of whale.

Those long horns, preserved as precious beauties, are but the teeth of *narwhales*.

Bronne's Vulgar Errors.

NAS. Corrupted from *ne* has, or has not. Obsolete.

For pitted is mishap that *nas* remedy,
But scorned been deeds of fond foolery.

Spenser.

NASAL, *adj.* Lat. *nasus*. Belonging to the nose.

To pronounce the *nasals*, and some of the vowels, spirittally, the throat is brought to labour, and it makes a guttural pronunciation. *Holder.*

When the discharge lessens, pass a small probe through the *nasal* duct into the nose every time it is drest, in order to dilate it a little.

Sharpe's Surgery.

The *nasal* twang

Heard at conventicle, where worthy men,
Mised by custom, strain celestial themes
Through the prest nostril, spectacle-bestrid.

Cowper.

NASEBY, a village of Northamptonshire, memorable for the total defeat of the royal army under king Charles I., prince Rupert, lord Astley, and Sir Marmaduke Langdale, by that of the parliament under Cromwell, Ireton, Fairfax, and Skippon. This victory proved peculiarly fatal to the king, as a casket of his letters to the queen fell into the enemy's hands, some of which were printed by the parliament, as proofs of his insincerity with regard to the treaty of Uxbridge. See **CROMWELL**.

NASH (Richard), esq., often called king o Bath, a singular character, born at Swansea, in South Wales, 18th October 1674. His father was a gentleman, who was a partner in a glass-house; his mother was niece to colonel Poyer, who was killed by Oliver Cromwell in defending Pembroke Castle. He was educated at Caer-marthen, and afterwards at Jesus College, Oxford; but was dismissed on account of an intrigue. He then entered into the army as an ensign, but soon left it, and studied law at the Temple, where he conducted a pageant for the entertainment of king William III., the last of the kind that has been exhibited at the inns on the accession of any monarch. This was the first specimen he gave of his abilities to become the public arbiter elegantiarum, a character in

which he afterwards shone. King William was so well pleased that he offered him knighthood, which Nash declined. In 1704 he went to Bath, and soon after was appointed king, or master, of the ceremonies; an office for which he was admirably qualified by an elegant taste and uncommon vivacity; and in which he gave such universal satisfaction that he drew the whole beau monde to Bath, and was regarded as the benefactor of the city. Meanwhile he gained large sums of money by gaming, as well as by the emoluments of his office; but his benevolence and generosity were so unbounded that he never amassed wealth. Among innumerable instances of this disposition we shall only mention one:—Having gained 100 guineas one day at the gaming table, a spectator remarked with what indifference Nash drew to him that large sum, which would make him happy for life. Nash, shoving the money to him, said, 'Go then and be happy.' During the severe winter of 1739 his charity was extensively beneficial; but the most prominent monument of his benevolence is the public hospital at Bath, which was planned by him, and established by his exertions and those of Dr. Oliver. He died at Bath in 1761, aged eighty-seven; and was interred in the abbey church, with all the honors due to the monarch of Bath.

NASH, or **NASHE** (Thomas), a satirical writer, was born at Lowestoft, in Suffolk, about 1564, and educated at St. John's College, Cambridge. He left the university after taking his first degree, and settled in London, where he became a writer for the stage, and engaged in several literary controversies, particularly against the Puritan Penry, the author of Martin Marprelate; and Gabriel Harvey. He was also the author of Pierce Penilesse his Supplication to the Divell 4to.; Plaine Percevall, the Peace-maker of England, 4to.; and other pieces; besides three plays. He died in London, 1601.

NASHANT, or **NAHANT**, a peninsula of Massachusetts, in the township of Lynn, five miles south-east of Lynn hotel, nine south of Salem, and fourteen north-east of Boston. It is connected with the main land by a narrow isthmus, consisting of a delightful beach more than a mile and a half in length, and divided into Great Nahant, Little Nahant, and Bass Neck. Great Nahant, the eastern and largest division, consists of 305 acres of fertile land under high cultivation. In the hottest weather of summer the sea breezes on this peninsula are cool and refreshing; and it has long been a place of resort, in the warm season, for gay and fashionable people from Boston, Salem, and other neighbouring towns, as well as for invalids from the vicinity and interior country. The shores are bold and rocky, and, after a storm with easterly wind, the foaming and dashing of the waves of the agitated ocean against the high and precipitous rocks exhibit a most sublime spectacle. On the southern side of Great Nahant there is a curious grotto or cavern, called the Swallows' House; the entrance of which is about ten feet wide, five high, and seventy long, increasing after a few steps to fourteen feet in breadth, and eighteen or twenty in height. Great numbers of swallows inhabit this

cave and hatch their young here; and it is a common opinion that they repose here during winter in a torpid state.

NASHVILLE, a post town, the capital of Davidson county, Tennessee, on the south side of the Cumberland; 110 miles north of Huntsville, 190 west of Knoxville, 250 south-west of Lexington, 430 north-east by north of Natchez. Population, in 1818, between 3000 and 4000. Long. 87° 8' W., lat. 35° 45' N. It is pleasantly situated, regularly laid out, and contains a court-house, a jail, a market-house, two banks, a young ladies' academy, a public library of 1200 volumes, a cotton and woollen manufactory, a rope-walk, two distilleries, and three houses of public worship, one for Presbyterians, one for Methodists, and one for Baptists. It is a thriving and wealthy town, the largest in the state, and is situated in a fertile and populous country, and has a flourishing trade. Two newspapers are published here. There is a steam-boat navigation from Nashville to New Orleans. The Cumberland is navigable to this place for vessels of thirty or forty tons, nine months in the year, and at certain times for ships of 400 tons. The distance of Nashville from New Orleans, by land through Natchez, is 586 miles. A new road is now opening through Madisonville, distance 480 miles.—Cumberland College was incorporated here in 1806.

NASICOR'NOUS, *adj.* *Nasus* and *cornu*.

Having the horn on the nose.

Some unicorns are among insects; as those four kinds of *nasicornous* beetles described by Moffetus.

Browne.

NASSAU, an independent duchy of the Germanic confederation, was formerly the name of several principalities of the empire. Its present boundaries are the Prussian territory on the Lower Rhine, and the states of the princes of Hesse. It lies between 49° 55' and 50° 49' of N. lat., and has an area of 2186 square miles. It is divided into the districts of Wisbaden, Weilburg, and Dillenburg; which are subdivided into bailiwicks. The ducal residence is at Idstein. Population 303,000.

The surface of the duchy is hilly, and the climate temperate; it contains nothing that can be strictly called a plain; but along the rivers there are low level tracts. The mountain ranges are the Westerwald and the Taunus. To the west is the Rhine, the Maine to the south, and the Lahn in the interior. Some of the principal watering places in Germany belong to this little state, there being good mineral springs at Ems, Schlagenbad, Wisbaden, Lower Selters, Upper Lahnstein, &c. &c. Vast quantities of mineral water are exported. In the north the air is often piercingly cold, and corn is not raised in sufficient quantity for the consumption. The culture of the vine and the rearing of cattle form the chief employments; the best vines being raised on the banks of the Rhine. Hock and bleichert are the well known kinds. The mountains abound in game and in minerals. There are mines of silver, lead, iron, and salt, the smelting and manufacturing of which is conducted on a large scale: other manufactures are paper, leather, tobacco, vinegar, and coarse linen.

The duke of Nassau ranks in the thirteenth place at the smaller assembly of the diet, and in the full assembly he has two votes. His duchy has a representative assembly, and justice is administered by a high court of appeal at Dietz, by another at Wisbaden, and by inferior courts in the country. The military is between 2000 and 3000 men; the revenue £180,000.

The inhabitants of this duchy are about equally divided between the Protestant and Catholic faith: in 1814 there were 120 Lutheran, ninety-seven Calvinist, and 152 Catholic churches. The prince ranked as a Calvinist, but the two parties have long professed the greatest liberality; and in August, 1817, they agreed to unite in one body under the title of Evangelical Christians.

In 1802 the house of Orange received in this quarter a domain, as an indemnity for the stadtholdership; and in 1806 an accession of territory was given to both branches of the house of Nassau, on the formation of the confederation of the Rhine. The family, after long being counts, were made princes of the empire in 1688 and 1737: in 1806 they were declared dukes.

NASSAU, a small town of west Germany, on the Lahn, in the duchy of Nassau. Near it are the ruins of the castle of Nassauberg, which gave name to the family, and this is the only place that belongs in common to the king of the Netherlands and the duke of Nassau. Population 1500. Ten miles W. S. W. of Limburg.

NASSAU, a fort maintained by the Dutch of the gold county, Africa.

THE NASSAU, or Two Poggy Islands, are islands on the west coast of Sumatra, separated by a narrow strait called Se Cockup, forming an excellent harbour. The islands are inhabited by an uncivilised people, who do not know the use of money, making no distinction between a metal button and a piece of gold or silver coin. They are divided into tribes, each inhabiting a distinct village on a river. Their houses, like those of the Sumatrans, are of bamboo raised on posts, and the space underneath serves as a place for pigs and poultry, which, together with sago, constitute their food, for they grow no rice; the islands have red deer, but neither buffaloes nor goats. They abound in large timber, amongst which are poon trees, of sufficient dimensions for lower masts for a first rate ship of war.

NASTY, *adj.* } Teut. *nas*; Belg. *nat*, *nas*;
NASTILY, *adv.* } *chylig*. Filthy; nauseous;
NASTINESS, *n. s.* } disgustingly unclean: the adverb corresponding: nastiness is filth; dirt; grossness; obscenity.

The most pernicious infection next the plague, is the smell of the jail, when prisoners have been long, and close, and *nastily* kept.

Bacon's Natural History.

This caused the seditious to remain within their station, which, by reason of the *nastiness* of the beastly multitude, might more fitly be termed a kennel than a camp.

Hayward.

A divine might have employed his pains to better purpose, than in the *nastiness* of Plutus and Aristophanes.

Dryden.

Their *nastiness*, their dull obscene talk and ribaldry, cannot but be very nauseous and offensive to any who does not baulk his own reason, out of love to their vice.

Sout.

Haughty and huge, as High Dutch bride,
Such *nastiness* and so much pride
Are oddly joined by fate.

Pope.

Sir Thomas More, in his answer to Luther, has thrown out the greatest heap of *nasty* language that perhaps ever was put together.

Atterbury.

A nice man, is a man of *nasty* ideas.

Swift.

NATAL, *adj.* Lat. *natalis*; Fr. *natal*. Native; relating to nativity.

Since the time of Henry III. princes' children took names from their natal places, as Edward of Carnarvon, Thomas of Brotherton.

Camden.

Propitious star! whose sacred power

Presided o'er the monarch's *natal* hour

Thy radiant voyages for ever run.

Prior.

NATAL, or **NATAR**, a Malay trading settlement on the south-west coast of Sumatra, some miles south of the river Tabuyong. Gold of fine quality is procured from the country, some of the mines being within ten miles of the factory; and there is a considerable vent for imported goods. The anchorage is about two miles off the shore, in five fathoms water. The road is one of the worst on the coast of Sumatra, having numerous shoals and often a heavy sea. An English settlement was established in 1752. In the year 1760 the French destroyed it; but it was re-established, and the possession secured, by the treaty of Paris in 1763. The East India Company's influence is predominant here; but the town is governed by a Malay datoo, or chief magistrate. Long. 98° 57' E., lat. 32° N.

NATATION, *n.s.* Lat. *natatio*. The act of swimming.

In progressive motion the arms and legs move successively, but in *natation* both together.

Browne.

NATCHEZ, a city, and port of entry, Adams county, Mississippi, on the east bank of the Mississippi, 322 miles according to Darby, 310 miles according to Schultz, above New Orleans, by the course of the river, 156 by land, 430 south-west by south of Nashville, west 1268. Long. 91° 20' W., lat. 31° 33' N. Population, in 1810, 1511; and, in 1818, about 3000. The greater part of the town stands on a bluff, elevated upwards of 150 feet above the surface of the river; but the river cannot be seen from the town, on account of the greater elevation of an intervening hill. The city is regularly laid out, the streets intersecting each other at right angles, but the site on which it is built is very uneven. It contains a court-house; a jail; a market-house; a bank; an academy; two printing offices, from each of which is issued a weekly newspaper; and two houses of public worship, one for Roman Catholics, and one for Presbyterians. Some of the houses are respectable, but they are mostly of wood, and of only one story. To enable the inhabitants to enjoy the evening air, almost every house has a piazza and balcony. The gardens are ornamented with orange trees, figs, plums, peaches, and grape vines. The town contains much wealth. It is well situated for a commercial depôt, having a country fertile in cotton and well cultivated.

NATES CEREBRI are two circular protuberances of the brain, situated on the back of the medulla oblongata, near the cerebellum.

NATHAN, a faithful prophet and historian of

Israel, under David and Solomon; supposed by some to have been the author of the second book of Samuel, and of the latter part of the first book: he that as it may, we are certain that he wrote the history of David and Solomon. See 1 Chron. xxix. 29; 2. Chron. ix. 29. Nathan's affecting parable of the ewe-lamb, his bold reproof of David for his crimes, his prohibition of his building the temple, and his seasonable advice whereby the usurpation of Adonijah was overthrown, are recorded in 2 Sam. vii. & xii.; and 1 Kings i.

NATHAN, a son of David by Bathsheba, probably named after the prophet, the lineal ancestor of our Saviour by the maternal line.

NATHAN (Isaac, or Mordecai), a learned Jewish lexicographer; the first who compiled a Hebrew Concordance. He began it in 1438, and finished it in 1458. It was first printed at Venice, in 1523. Calasio reprinted it at Rome in 1621, in four folio volumes, with such additions and improvements as to render it a complete dictionary. Eleven years after another edition appeared at Basil, corrected by Buxtorf; and the Rev. W. Romane, with the assistance of Mr. Edward Kowe Mores and a Portuguese rabbi, published in 1747 a new edition from that of Calasio, at London, in the same number of volumes.

NATH'LESS, *conj.* Goth. *na*, that is, Sax., not, the less. Nevertheless: formed thus, *natheless*, *nath'less*. Obsolete.

Nath'less, my brother, since we passed are
Unto this point, we will appease our jar.

Spenser.

The torrid clime

Smote on him sore besides, vaulted with fire.
Nath'less he so endured, 'till on the beach
Of that inflamed sea he stood, and called
His legions.

Milton's Paradise Lost.

NATH'MORE, *adv.* Na the more. Never the more. Obsolete.

Yet *nathmore* by his bold hearty speech,
Could his blood-frozen heart emboldened be.

Spenser.

NATION, *n.s.* } Fr. Ital. and Teut.
NA'TIONAL, *adj.* } *nation*; Lat. *natio*. A
NA'TIONALLY, *adv.* } whole people; a peo-
NA'TIONALNESS, *n.s.* } ple distinguished from
others by their origin, situation, language, or government; any great number of people: national, means pertaining to a nation; public; general; patriotic: the adverb and noun substantive corresponding.

If Edward III. had prospered in his French wars, and peopled with English the towns which he won, as he began at Calais driving out the French, his successors, holding the same course, would have filled all France with our *nation*.

Raleigh.

They, in their earthly Canaan placed,
Long time shall dwell and prosper: but when sins
National interrupt their public peace.

Milton.

About the same time thirty frigates were appointed to be built, as well to increase the fleet as to secure the trade of the *nation* by cruising.

Ludlow.

A *nation* properly signifies a great number of families derived from the same blood, born in the same country, and living under the same government.

Temple.

The term adulterous chiefly relates to the Jews who, being *nationally* espoused to God, by covenant.

every sin of theirs was in a peculiar manner spiritual adultery.

South.

The astonishing victories our armies have been crowned with were in some measure the blessings returned upon that national charity which has been so conspicuous.

Addison.

When after battle I the field have seen
Spread o'er with ghastly shapes, which once were men;

A nation crush'd! a nation of the brave!

A realm of death! and on this side the grave

Are there, said I, who from this sad survey,
This human chaos, carry smiles away?

Young.

God, in the execution of his judgments, never visits a people with public and general calamities, but where their sins are public and national too.

Rogers.

He gives the word, and Mutiny soon roars
In all her gates, and shakes her distant shores;
The standards of all nations are unfurled;
She has one foe, and that one foe the World.

Couper.

NATIONAL DEBT. Although, in our article **FUNDS**, we have presented the reader with a general outline of our entire funding system, some historical details essentially connected with this great feature of our national policy may here be supplied; particularly as the recent conversion, or more properly speaking, perhaps, the recently announced conversion, of lord Grenville from the errors of Mr. Pitt, is held up in some quarters as having given the death-blow to the favorite scheme of that once honored financier—the sinking fund.

We shall first endeavour to place before our readers the real efficacy of our finance system. During upwards of twenty anxious years, it is not to be denied that armies and navies were maintained by Great Britain, hardly less numerous and with far more expensive equipments than Imperial Rome could boast in the plenitude of her dominion. If sometimes our hopes were disappointed, did this ever in any one instance happen because the sinews of war failed? Our force may have been misdirected or overpowered, but not for one moment in twenty-one eventful years was it ever paralysed by a failure of pecuniary strength. Has then this wonderful military exertion drunk up all the streams of civil prosperity? Has the plough stood still, or the loom been silent? Have our roads become green, our cities depopulated? Were parents dragged in fetters from their infant families, or sons from their widowed mothers, to fill the wasted ranks of armies perishing by disease?

Nothing of all this, but quite the contrary! The mass of national wealth in habitations, furniture, manufactures prepared for future use, and above all in territorial improvements, and in numerous and costly establishments which facilitate production and improve commercial communication, are greatly and obviously increased. Our exports, for instance, during the years 1826 and 1827, consisting chiefly of home produce and manufactures, have exceeded those of any two previous years.

This is without doubt a remarkable anomaly in the history of nations; and few things can be politically more interesting than a view, if not

incorrect or wholly inadequate, of the sources of this power, and the mechanism by which our unexampled military and naval expenses have hitherto been defrayed, while, at the same time, the growth of our intrinsic national wealth, as before stated, has been astonishing.

The public opinion we believe is at present very unsettled and indistinct on this subject; and, as erroneous ideas of the artificial causes of extraordinary circumstances in the history of mankind readily introduce false principles of policy, it is the more material that the real bases should be known of the power which the British empire now displays, and of the revenue by which it has been enabled to persevere in its exertions. This is indeed indispensably necessary to any thing like a correct political view of the progress of our national debt and the plans for redeeming it: and professor Hamilton has wisely limited his 'Enquiry' (the modern text book of our subject) almost entirely to an arithmetical examination of the subject; and to this extent has rendered a most important service. Most, if not all, of his inferences would be correct, if the practical financier must be fettered by strict calculations of direct profit and loss, and forbidden to extend his views to considerations of political experience, or to compute the ultimate advantages, even in a pecuniary view, which may result from such an adaptation of his arrangements to times and opinions as will give them stability, and increase the general benefit.

But, however useful this simplicity of theory may be to establish sound principles, it has the natural effect of fixing the attention too exclusively on some one of the many co-operating or contending powers in the mechanism of society, and among many necessarily co-existing causes to consider one only as essential, and all the others as contingent and subordinate. Theoretic investigations of particular topics are an important division of labor in preparing philosophical instruments for the practical politician, and as such we very highly esteem them; but if without estimating their respective powers, or considering the probable effects of their compound operation, the practical politician looks to the agency of one of them only, and forms his plans on so contracted a principle, the chances are that he will fail of success, or if he should succeed, it would not be art, but empiricism.

We mean to take a wider view of the subject, therefore, than the professor has done, and one which may enable us clearly to point out the reasons why we can by no means join in his general disapprobation of the plans which for many years past have been adopted or modified, in creating our funded debt, and attempting to redeem it. If we take a less popular view of the subject than that which this able writer has adopted, our readers, in an analysis of lord Grenville's pamphlet, shall be furnished with a fair view of the modern lights on the question.

We now, therefore, request their attention to the following important circumstances of comparison between the state of England after more than twenty years of uninterrupted war, and in 1714, when the peace of Utrecht terminated a contest which had lasted from 1689, with four years cessation.

1. From 1714 to 1824 the population of England and Wales somewhat more than doubled.
2. The increase of real wealth was certainly greater than that of the population.
3. The average increase of money prices was threefold.

When we have explained the chief causes of these very great changes in the state of this part of the British empire, we mean to apply them in examining the causes of the progress of the public debt of this country, and its successive proportions to the private revenue, by which, through the medium of government and by means of taxation, its interest is paid.

The causes of the great increase of population, have, without doubt, been chiefly various ameliorations in the state of the lower orders of the people, and more especially of late years. Much has been gained by medical improvements, but much more by the effect of the poor laws; a system of which the present magnitude and internal principle of increase cannot be contemplated without alarm as to its ultimate consequences, but which, as now practically employed, certainly promotes early marriages, preserves helpless infancy, makes sickness less fatal, and prolongs old age. Add to this, that during the whole period hardly any of the extraordinary checks to the increase of mankind have existed in this country. It has suffered very little from civil war; not at all from pestilence; and, during many years, the influx of inhabitants has probably equalled, if not exceeded, the emigrations. The progress, in this respect, of the other parts of the united kingdoms, cannot be computed with equal precision; but there are very safe grounds for asserting, that if in Scotland it has been somewhat more slow, it has been far more rapid in Ireland, and that, on the whole, the total numbers have much more than doubled.

It is easy to show that this increase of numbers has been accompanied also by even a greater increase of intrinsic wealth and sources of private revenue. During the period included in these remarks, habitations, furniture, implements, &c., have been progressively provided for the additional families; all are, undoubtedly, in these respects, better provided than 100 years ago; and, therefore, this part of our intrinsic wealth has much more than doubled. As to territorial and other productions which require to be constantly replaced, in proportion to their constant consumption, the circumstances have been somewhat different. While the increase of provisions has been somewhat less than in proportion to the additional population, that of all other territorial produce from mines, &c., has far exceeded it, and the produce of manufacturing labor not only creates an abundantly greater surplus beyond the consumption of a duplicate number, but, having been more and more aided by the invention and general use of artificial facilities of production, the means of augmenting the quantity are in the duplicate proportion of the labor of the additional numbers, together with that of the augmented means by which their labor is assisted.

During the earlier part of this period, it ap-

pears from the returns of the parochial registers, confirmed by abundant other proof, that the increase of inhabitants was chiefly agricultural, producing, till after the middle of the last century, an increasing surplus of provisions; since that time the increase has been very much greater in towns and manufacturing districts. While, therefore, the surplus of the productions of all kinds of the latter proportion of the people, aided by constantly increasing and improving facilities, has increased to a wonderful extent, the agricultural produce has become inadequate to the necessities of the nation; and since this deficiency of the necessaries of life could only be supplied by an exchange with foreign nations of the surplus of manufactures, however great that surplus might become, and however adequate in value to supply what is wanted, yet the political inconvenience is manifest.

The profit of labor to the employer is the general cause of such fluctuations; and here, in England, the peculiar cause of the change already stated has, without doubt, been this—that the facilities which obtain a greater produce from an equal quantity of human labor, increased more rapidly as applied to manufactures than to agriculture. At present, various causes which we cannot allow ourselves space to explain, are evidently co-operating to equalise the profit of agricultural and manufacturing labor; and we have good reason to hope that the political inconveniences before mentioned will gradually, though perhaps slowly, be removed. It will hereafter be shown how an increase of population and of profit to its employers operates very powerfully to increase the money price of all that is necessary for general consumption; or, according to an equivalent expression, to diminish the value of money. A few words, however, may now be added on the peculiar nature and effects of that portion of national wealth which exists in the means of facilitating production; that is, of obtaining a greater quantity by an equal employment of human labor.

In the progress of civil society the labor of mankind has four distinct objects: to provide things of which the necessity or utility arises in their consumption; as, for instance, food, and which must therefore be constantly reproduced:—to provide durable necessities and conveniences; as, habitations, &c., which require a less proportion of annual labor to perpetuate than to create:—to provide the instruments, and various artificial means, by which either the two former may be obtained in greater abundance and better, or in equal and sufficient abundance with a less quantity of labor:—to provide for defence, which too often degenerates into aggression, but which becomes more systematic, and more distinctly a separate division of labor, whether employed for civil or military purposes, in proportion to the improved state of society, not only in the country itself, but in all others with which it is politically connected.

It is very obvious that, in proportion as fewer hands are wanted for the first-mentioned purposes, more will be disposable for the use of the government, as civil officers, as soldiers, and as manufacturers for military purposes. Wherefore, since the power of a nation depends on the quan-

tity of the means of defence or annoyance, as its force depends on the energy and skill with which those means are employed; it follows that, in proportion as the labor of production is facilitated, the politically disposable numbers will be greater when compared with the whole population. This solves the problem, how a small nation without any diminution of its intrinsic wealth may be able to maintain equal armies with one far more numerous. If, for instance, in one nation two-thirds are usually wanted to reproduce food and other primary objects of consumption, and in another half only are wanted for these purposes, then, all other circumstances being alike, this difference of one-sixth of the whole number may be added to the power of its government. Also if, by means of improved machinery in manufactures, two men can produce as much as three before, the third, if not employed to increase the former quantity, may be added to the power of the government.

An application of these observations to the modern state of the British empire will clearly show, why it was for so long a time able to spare such an immense proportion of its population for military purposes, not only without being impoverished in point of intrinsic wealth by the loss of their profitable labor, but with a still remaining surplus of hands to employ very actively in augmenting its present, and still more its progressive, increase.

If also the private revenue of the nation has, from these and other causes, increased in more than a duplicate proportion, it so far follows that the part of it which may be spared for the use of the government will have equally increased in intrinsic value; and, if the money value of that revenue is tripled, its nominal amount, as estimated in money, will be more than six times as great: that is, the population being now more than twice as great as in 1714, the intrinsic wealth and revenue being still more increased, and the money price of that wealth being tripled (if tripled?), it conclusively follows, that, one with another, private incomes would not now be so much diminished in real value by paying £30,000,000 a year for the expenses of government (exclusive of the interest of public debt) as by paying £5,000,000 a year only at the former time. It will hereafter be shown that money paid by the subject for interest of public debt, only falls within the case of actual national expense, so far as that debt belongs to foreigners or others to whom its interest is transmitted.

With respect to the degree in which the money prices have increased since 1714 the general opinion, that on a medium they are three times as great as formerly, is probably very near the truth. Various causes have been assigned for this increase, of which the greater part have, undoubtedly, more or less contributed to it; and, as the effects of any one of them have been more than of others laboriously traced by persons with powers of observation naturally or artificially contracted, to that cause which they happen more clearly to apprehend they usually attribute the combined effect of many causes co-operating. We hope not to fall into the same error when we state that the progressive increase of the popula-

tion, and, more especially, of that part which lives in towns, or is elsewhere employed otherwise than in reproducing the annual consumption of food, has been a very material cause of the progressive increase of its price, and, by a chain of consequences, of the general cost of labor, and of what is commonly called the depreciation of the value of money. We understand, by the latter expression, the diminution of its power as an instrument in estimating, exchanging, and transferring other things of real or imaginary worth, without any direct reference to the commercial value of the material employed in its fabrication.

We believe it will be found historically true that, independent of the quantity of circulating metallic money, or of debts performing its functions, and also independent of the immediate effects of powerful causes, such as sudden abundance or scarcity, there exists a fluctuation of money prices, which is usually most visible with respect to things of most general and necessary consumption; and which very materially depends on the advance or decline of population and, more generally, on the state of national prosperity. If, as seems probable, the average supply of the necessaries and comforts of life, during any period of sufficient length to decide the question, will be very nearly in an exact proportion to the consumption, where the population is stationary as to numbers, and the habits of life are little varied by moral or political changes: it is also a probable inference, that a constantly increasing population will anticipate the increase of produce for its own use, and the case will be inverted when, from any cause, its numbers are diminishing. We believe that the supply much more usually adjusts itself to the demand than the demand to the supply. We do not mean to say that this is always the case, because novelty will tempt purchasers, and unusual abundance will, to a limited extent, increase consumption; but, where the regular effect of increasing or diminishing numbers is not controlled by other causes, we think it evident that the course will be such as we have stated. Where there was previously an exported superabundance, the earlier effects of an increasing demand may, for some time, be hardly visible; or may even be counteracted, as to any particular commodity, by any circumstance which may act as a stimulus for producing it beyond the progressive consumption. This happened during the first half of the last century.

For several years, till after the bankruptcy of the South Sea Company, there was an extreme activity of circulation, and decreasing interest of debts, indicating that sort of plenty of money, or, more properly, facility of obtaining credit, which is commonly deemed a chief cause of increasing prices; yet they regularly declined, and continued to do so for nearly forty years. But, during that period, the trade and manufactures of the country were by no means remarkably prosperous, a sure proof that they were not remarkably profitable. The increase of population was not inconsiderable, though far less than it has since been; but the profit of manufactures did not as yet entice it by high wages from agricul-

tural employments. With the sudden and great change in that respect, which took place in consequence of the political ascendancy that we acquired during the latter part of the seven years' war, may be visibly connected a very rapid change from superabundance of agricultural produce to an actual deficiency. A public debt, which had increased fifty-fold between the revolution and the peace of Utrecht, had no visible effect on the value of money. A long peace, with very remarkable alternations of private credit, between extreme activity and a general stagnation of pecuniary transactions, had no remarkable effect on money prices of necessaries. The succeeding war, from 1740 to 1748, disastrous to our commerce, impeding our manufactures, and materially increasing our national debt, did not visibly alter the value of money.

The causes of its diminished value, perhaps, began to operate several years before their effects were distinctly visible, but it was not till some time after the successful termination of the seven years' war that the change became remarkable. During the American war the money prices of most things of extensive use considerably diminished; during the late war they still more remarkably increased. We by no means infer that these circumstances may not have important and regular effects on the value of money, but only that other powerful causes may have produced these seeming anomalies; and also that the great decrease in the value of money has been, to a considerable extent, occasioned by the concurrent increase of real wealth, and of the population employed in producing it. Soon after the middle of the last century a great change began in the proportion of agricultural produce and its home consumption.

In about twenty years, during which the population appears to have increased about 1,000,000, a great surplus of corn, which had previously been exported, was changed to an average deficiency, which soon became constant, and has since greatly increased. It is, therefore, evident that a great change was then beginning between the comparative numbers of persons employed in producing corn, and of those by whom it was consumed. With that change began one very efficient cause of the general depreciation of money. A deficiency of supply, which has never since overtaken the constantly increasing demand, has produced a progressive increase of prices, requiring higher wages for subsistence, giving greater profits to the farmer, leading him to give higher rents, and thus adding to the money price of lands, and, like all other movements, acting with increasing effect in proportion to its unimpeded duration. The advance of money price, however great, cannot restore the equilibrium, so long as it can be paid without difficulty by the great mass of consumers, which will continue while the profit of employing them in manufactures is great enough, and the sale of those manufactures extensive enough, to allow of paying adequately increasing wages. And the period during which this excess of profit, or one of its consequences, induces the employer to give adequate wages, is prolonged by the multiplied facilities of pro-

duction which have, within a few years, been greatly improved, and many of them almost recently invented.

In these a very large addition to the national capital is now invested, of which, like all other capital, the revenue depends altogether on the productive use; and, on this account, the proprietors of this species of capital must continue to employ their workmen, or cease to derive any profit from it. So far as extends to internal consumption only, the demand for the produce of manufacturing industry can never be so excessive, but that, as long as room remains for increase or improvement of cultivation, a sufficient number of hands will remain to cultivate with adequate profit, and to an extent proportioned to the consumption. Nor could the diminution of the value of money, which results from an inadequate domestic supply of those things for which money is chiefly wanted, continue for any long space, were it not for such a profitable exportation of manufactures as entices too large a proportion of labor from its more useful employment in reproducing food.

So long as only a surplus of labor beyond what is wanted for domestic use is thus employed, the very irregular demands of foreign markets, however inconvenient, will probably not materially affect the average value of money; but the case is materially different when a constant deficiency of the necessaries of life, creating, as before stated, of itself alone a constantly increasing money price for them, can only be supplied by a precarious exchange for things of very inferior use; of things subject to the caprice of fashion, and the control of adverse policy. Those who must buy cannot meet on equal terms in the market with those who are subject to no such necessity; and hence arises an obvious additional cause why the money prices of the food of a nation so situated must continue to increase so long as it has luxuries only, or things of which the purchase may be postponed, to give to foreigners in exchange for it. We are very far from intending to lessen the moral and political value of commerce, and of industry employed to furnish it with merchandise; but we have wished to explain an important cause of the modern change of money prices, which appears to us to have considerably resulted from an inconvenient disparity of profit between the cultivation of necessaries and the manufacture of superfluities. We are not aware that this cause of depreciation of money has been much considered, which must be our excuse if we appear to bestow on it a disproportionate degree of attention. We need not explain those causes of it which are more generally, though we believe imperfectly, known.

But if the population has doubled, if the real wealth has increased in more than a duplicate proportion, and if the money price of that real wealth, on an average, is three times greater than it was 100 years ago, it strictly follows, that £1,000,000 a year of public revenue at that time, bore as large a proportion to the means of paying it as more than £6,000,000 now; probably £7,000,000.

About the middle of king William's reign,

Gregory King valued the whole private revenue of England and Wales, including labor, at £43,500,000. His authority is very great, and we may rely on this calculation as a near approximation. The long wars which followed, and various other circumstances, had diminished the population about one-twenty-sixth, but there was no remarkable change in money prices from the revolution to the peace of Utrecht.

But, as ten to sixty-five, so is £43,500,000 to £282,750,000.

From the returns made in 1811, it is clear that the population of England and Wales must now exceed 10,500,000; probably 10,700,000.

The earnings of the laboring classes of this population at the present wages are very moderately computed at £130,000,000 a year.

The property income, as ascertained by the tax assessments for England and Wales, will be found this year to amount to more than £140,000,000.

With due allowance, therefore, for various profits which escape assessment, the present annual revenue must certainly exceed 280,000,000, and is probably little less than £300,000,000. And this remarkably agrees with the inference from the increase of population and of money-prices.

The addition of Scotland must also be allowed for, which contributed very little during the former period; that is, in the reigns of king William and queen Anne, until the peace of Utrecht. The population of Scotland is about a sixth, the extent about half, the cultivated extent about a sixth of the same in England and Wales; the wages are lower; but, all taken together, the revenue of Scotland cannot be less than a tenth of that of England, nor can both together be computed at less than between 310,000,000 and 330,000,000 a year.

By another statement, which differs very little from that adopted by professor Hamilton, it appears that the debt contracted during the reign of king William, by a war which lasted almost nine years, was £15,730,439

The debts contracted during the reign of queen Anne, by a war which lasted almost eleven years, was 37,750,661

£53,481,100

Comparing these debts with the money and means of the present times, by computing the increase of population as about twofold, the change of money prices about threefold, and the addition of Scotland about a ninth, it will be found that they were equivalent to the following sums in the present state of Great Britain:—

King William's debt multiplied by 6·45, and one-ninth added . . . £112,385,247

Queen Anne's debt multiplied by 6·50, and one-ninth added . . . 272,643,662

The two united . . . £385,028,909

Since the beginning of 1793 to the 1st of August in the present year, and deducting the short interval of peace, during which the war

expenses never entirely ended, we have had very nearly the same duration of war, and the increase of debt reduced to a five per cent. stock at par, in order to make it more nearly correspond with the debts of king William and queen Anne, which were even at a higher rate of interest, and, including the unfunded bills, has been nearly as follows:—

The first war, including Imperial loan, about	£195,600,000
The second war, including Irish loan payable by Britain	117,927,890
	<hr/>
	£313,527,890

Neither of the two latter sums is accurate, but they are near enough to show that, when considered with due attention to the difference of national means, the debts incurred in the second period of warfare are by no means so heavy as in the first.

We may apply these observations in comparing the public debts contracted during the two wars which preceded the peace of Utrecht, and which have been since the year 1792. The debt, when that peace was made, is stated by professor Hamilton to have amounted to £55,282,978, of which all but about £1,054,925 had been contracted in about twenty-five years, that is, after the revolution. This statement, if correct, probably included the floating debt unprovided for, and afterwards paid out of the unappropriated revenue; for it appears from an exchequer account presented to parliament, and dated March 14th, 1716, that the principal money borrowed had been £47,268,883, of which £665,782 had been paid, and £46,603,100 remained, at an annual charge of £3,118,448. But this sum being a charge on less than half the present population, and taken from less than half the present real private revenue, and computed in money of three times its present value, was, therefore, in proportion to the means of paying it, quite as much as a debt incurred during the last twenty years would be, of more than £320,000,000 borrowed, with more than £20,000,000 a year for its interest and cost of management. The annual charge, however, for the increase of both funded and unfunded debt from 1792 to August 1st, 1813, was only about £16,500,000, being considerably less in proportion to the real wealth of the country.

It cannot, however, be denied that our exertions have been much greater and more expensive than in these proportions of interest for debt contracted. Our armies and navies have been much more than double, the equipments are intrinsically more costly, and we cannot venture to say that the expenses have been managed with greater economy.

The debt has not increased in equal proportion, because in two ways the exertions have been very great, by which its increase has been retarded. By the war-taxes, and by the sinking fund. But, if the durable pressure has been lessened by them, the question which naturally follows is this: have the temporary burdens, and the subtraction of such immense numbers from productive employments, impoverished the na-

tion, or altogether stopped its improvement? Had it been so, we should soon have seen the effect in falling prices, in a suspension of public works by subscription, and by many other unequivocal proofs. The reasons why we are now able to make such unexampled exertions have now, we think, been explained. In fact, nearly the whole resolves itself into increased facilities of production, into a substitution of inanimate for animated power, and, in a less degree, the substitution of the labor of cattle and horses for that of man.

Not to mention many well-known instances of inanimate movement, by fire or by water, of complicated machinery, one example of a recent improvement in rural economy may be produced which will fully explain the effect of this system. On a tillage farm of 300 acres a threshing machine, if only moved by horses, on a very moderate estimate, saves as much human labor as that of one man constantly employed, and far more if moved by water. The produce is the same, but the former saves so much expense in producing, and the nation gains one man by each of those machines, who may be employed as a soldier or sailor, or a military manufacturer, without any diminution of reproduction, and whose wages in his new and unproductive occupation are provided by the economy of expense in threshing corn; for, in this view of the question, each private saving of expense is a national saving. Apply the same reasoning to the numberless similar improvements of modern times in this country, and it will be easily seen why we have not only more men to spare, but more means to pay them without becoming poorer. A further analysis of this most interesting question would lead us to remoter causes than the mere progress of mechanical inventions; to those causes on which the latter mainly depend for their introduction and improvement. They are, in fact, the creatures of high civilisation in the true meaning of that word; of a state of society in which mental energies are excited, and industry is animated by a certainty that their movements will be unfettered by bad government, and in no danger of foreign or domestic spoliation.

Yet, although the means of supporting without impoverishment the immense public expenses of modern times in this country may be very distinctly traced to increasing national prosperity, resulting from the intellectual, moral, and political improvements which denote high civilisation, it may not be the less interesting to know by what mechanism of finance we have been able to raise our public debt to its present vast amount.

In every state of improved society it is much more profitable to the mass of the population that a part should be appointed to protect the whole, than that all should be called upon to quit, when wanted, the occupations where use and art have made their labor additionally productive, and contribute personally a part of their time to an object, whether civil or military, for which, by education and habit, they have not been adapted. Generally speaking, if these services are paid for by those whose time and capi-

tal are devoted to productive employments out of their revenue, a much larger proportion of it will remain for their own use than if their personal service were required. The time saved will produce far more than the cost of the commutation in money. If no moral and political circumstances interrupted the nearly equable progress of social life, all the cost of civil and military protection might be paid by regular and equable contemporary contributions from the revenue obtained by the profit of capital, and of labor productively employed. But since, from various causes, the expenses of every government will be extremely unequal according to political circumstances, the grand question seems to be, by what mechanism of finance may the natural inconveniences of this irregularity be so obviated as to produce the least possible mischief? By what means, during periods of great national expense, may a government avail itself of the national surplus of population and produce, without materially impeding the progress of private industry?

The more ancient way of attempting to do this was by hoarding in money the surplus of a revenue which exceeded the ordinary expenses; or sometimes by exacting contemporary contributions equal to the addition of them. The former system promises well on a cursory view of it, but is, of all that can be adopted, the most injurious to national prosperity. It diminishes the circulating medium when most wanted to employ during peace, a supernumerary population; at that time it increases the value of the remaining money, and consequently deadens industry by depressing prices, which are suddenly increased again by its dispersion during subsequent war. It is saved when dear, and spent when cheap. Hoarding money in a national treasury during peace diminishes the stimulus to industry when labor is most plentiful, to increase it when labor for productive purposes is most scarce.

But the system of raising money during war by taxes equal to the additional expense, if adopted when that expense is great, is little less mischievous, though its bad consequences are totally different. In the former case, money in circulation for productive uses is made more plentiful by war; the farmer, the manufacturer, all who have labor to sell, or its produce, obtain higher prices, and imagine themselves individually richer, if the treasure is not exported, and no evils of war are felt beyond the place of actual hostilities, and even there a lavish expense is often some compensation for its local injuries. But a war altogether supported by taxes equal to its cost will almost always become grievous and unpopular too soon to be carried on to a successful conclusion. The private revenues being materially diminished, the purchase of things not immediately necessary likewise diminishes, and this soon affects the general industry. We have pursued this argument further in our article FUNDS.

Our own system has been a mixed one.—During the period in which our funded debt has so largely increased it is apparent that, at least, as large a proportion of productive capital has been created within the same period. The real

means of paying the additional interest are the clear annual value of the produce of this capital; the ability to pay therefore has apparently kept pace with the demand, through the medium of taxes. We have used the popular language of debt and interest, but we must contend that the real nature of the funding system is, perhaps, more easily explained by considering the transactions as a sale of annuities by the nation, and purchase of them by individuals through the intervening agency of the government.

So far as those individuals are inhabitants of this country, it only causes a transfer of revenue from one class of proprietors to another; but this transfer, being in some degree from the active to the inactive part of the nation, is supposed by some to be of importance in diminishing the means of employing it with due profit. It might be so if the intrinsic capital, and not a portion of the profit obtained by that capital, were transferred to persons unable or unwilling to use it. If a soldier, grown gray in camps, and worn out by hardships, were to have a grant for his future subsistence of a field cut off from a well managed farm, and hereafter to be made productive, if at all so, by his own exertions, the diminution of its crops would soon be apparent; but, if he should be paid by a contribution out of the produce of that farm managed as before, the increase or decrease of that produce, in consequence of that payment, would chiefly depend on the following circumstances: If, before his pension was charged on it, the occupier could make no annual saving or gain beyond his total expenses, his means of obtaining produce must now diminish, and he must eventually be reduced to poverty. If he previously gained, on an average, just so much as he is now compelled to pay as a pension, it is true that he will not become poorer, but he cannot become richer, nor can he make his farm increase its own produce by employing on it savings which no longer exist. But, if the pension thus charged on him is less than the annual gain or accumulation of real capital, all the difference remains to him, and may be employed in augmenting its future produce, and therefore his future gain.

Apply this to the national funding system.—By that system there is no transfer of real capital, or capital in kind, but only of saleable annuities secured by its produce: no field is cut off from the farm, but instead of it is transferred a portion of the annual profits. If the public necessities exact more revenue by taxes than the aggregate amount of the contemporary national gain, there must be not only a cessation of improvement, but an actual diminution of private revenue, which will obviously continue in a geometrical proportion. If they exact less revenue than the total national gain, then so much of the remaining surplus as is employed in hiring more labor, or in any other facilities of production, will increase the total private revenue, and consequently the means of national accumulation. A portion, however, of those gains may be employed in obtaining things valuable but not productive, as precious stones and metals, as works of art, pictures, statues, &c.: in which case the increase

of capital would so far be in only an arithmetical, and not a geometrical proportion.

If the demands of government are commensurate with the private gains, the nation becomes neither richer nor poorer, and is in a state of indolent indifference, neither animated by a prospect of increasing riches, nor rendered desponding by a feeling of their diminution.

The case before stated from private life will also explain the reason why it is probable that the price paid to the government, by the purchasers of the annuities which are sold by it, is a part, and a part only, of the progressive increase of real capital. If not so, it must either be a part of unproductive accumulations of former gains, or it must be a subtraction from the active capital which was employed in replacing consumption or increasing the national wealth. Any material subtraction of the latter would soon become as visible in its effects as if the farmer were forced to sell a part of his working stock, or leave a field untilled for want of money to pay his usual number of laborers. And it is equally clear that it cannot in any great extent have been supplied by the unproductive accumulations of former gains; no farther, certainly, than it may appear that those accumulations on the whole have really diminished. In one respect this has happened, for a great proportion of metallic money has been exported; but only so much of this can be placed to the public account as has been exported for public purposes, and by any probable calculation far the greater part of the money obtained by the funding system must have been furnished by recent increase of real wealth, and by a part only of that increase; for, if amounting to the whole of it, by what means are buildings, canals, docks, enclosures, &c. &c., every where going on, and every where paid for? We must not entertain the absurd fancy that an increase of money prices is an increase of real capital, and thus furnishes the means of paying for all these additions to the stock of national wealth. The food of a laborer, if he is adequately paid, is the same, whether the money price of wheat is on a medium four shillings or twelve shillings a bushel; the proportion of his pay to his subsistence depends on various causes, and is more likely to increase than otherwise with the increase of money prices, and even beyond a due proportion to them. In any view of the question a change of the scale by which things are measured and transferred cannot be a change of the things themselves, nor in any respect alter their quantity, the aggregate amount of which is the real national capital.

Another important question which now arises is, by what means such immense sums are so easily collected, as are now advanced by individuals for the public use, by loans contracted under the funding system. We think it very doubtful if this could be done, were the whole or even the greater part of the payments made in metallic money, however plentiful it might be, when compared with the present mixed circulation. The mechanism by which it is now done is much more convenient, though probably contrived without any anticipation of its utility in this respect, and perhaps now producing its

effect without any general knowledge of the manner in which it acts.

In a highly improved state of civil economy there are four principal means by which property is transferred:—1. By metallic coins, which usually contain, in the materials of which they are made, nearly the same computed intrinsic value as that of the property transferred by them. 2. By transferable securities, or acknowledgments for debts not bearing interest, of which debts metallic coins are the known measures; securities, of which the materials have no value, but which are useful as instruments for paying and receiving, in proportion to the general confidence that the obligations contracted by them will be performed; and are valued in proportion to that confidence. 3. By transferable securities, or acknowledgments for debts bearing interest. These have the double use of money and of productive capital; metallic coins, as before, are the measures of their nominal value; and, as instruments in paying and receiving, they are estimated by the degree of confidence which may exist that the obligations contracted by them will be duly performed, and also, as to this third kind, by regard to the profit obtained by them when compared with the general contemporary profit of lending money. 4. By the intervention, without any circulating security, of money agents or bankers, who place the money value to be transferred, as received from the one party and paid by the other, in their books of account; and by that act, with the concurrence of both parties, become substituted debtors and creditors, often transferring backward and forward for those who keep accounts with them to a very great amount, without need of any payments in money of any sort, until the whole transactions are ultimately balanced, and then only to the extent in which the obligations they have contracted to pay and to receive for any person with whom they have so contracted, are found, on the close of the account, to be unequal. Thus it may often happen that property to an immense value is transferred with little or no use of money as an instrument of paying for it. It will therefore readily be observed, how very much the extension of the private banking system adopted in this country has superseded the use of any sort of money in a great part of its local transactions.

Of these four means, by which property is transferred, the third is practised by our government to a very great extent, and is a most important step in the progress of our funding system; one, indeed, without which the means of procuring the capital periodically funded would be very deficient. A very large part of the expense of the nation is paid by exchequer and other bills, issued to obtain for that purpose other money of smaller numerical value. These bills, being readily circulated, have, in a great degree, the nature and use of money, with the advantage of being a productive capital while possessed. The two sorts of money first described, not having this advantage, do not create the same inducement to accumulate them. Metallic money, indeed, possesses within itself the guarantee of its exchangeable or commercial

value; but then it affords no profit while hoarded, and consequently will only be collected and retained by those whose revenues equal their wants and wishes, without needing any productive employment of that portion of their wealth which they treasure up in coin; or else by those who speculate, that by accumulating it for some future employment with profit, the present loss will be more than compensated by the subsequent gain. The same reason holds against any great accumulation of paper money not bearing interest.

But exchequer and other similar bills, which have for their security the moral and political guarantee of unbroken national faith, while they have the uses of money, have also the great advantage of being a profitable treasure, and are therefore willingly retained by opulent persons, who either would not or could not afford to forego the profit on the same proportion of their capital, which they must do if they hoarded it in unproductive paper money or in specie. It is evident, therefore, that by this management the means of obtaining money by the funding system are greatly facilitated. The nation in the practice of that system creates annuities, which it sells at a price agreed on with the persons contracting to purchase them. For a considerable part of the price of those annuities it receives in payment its own debts previously contracted, and, as they are called, unfunded, because no special assignment of revenue has been made to pay their interest and discharge them. A very large part of the remaining price received for the annuities created, though paid in money, is previously collected in similar securities given by the government for debts already contracted. The easy circulation of the unfunded debt, for which exchequer bills have been given, makes it convenient to hoard them till money is wanted to pay for the annuities that have been purchased; when the periods of payment arrive money is very easily procured for them, and thus the capital is only for the shortest time possible unproductive. The success therefore of the funding system evidently depends very much on the previous creation of unfunded debt; and if no such debt existed, however plentiful money not bearing interest might be, yet its dispersion would be too great to carry on that system equably and permanently. No doubt patriotism and self-interest would furnish ample loans out of a dispersed money capital in times of great emergency; but there could not be that confident dependence on such a resource, which is one of the peculiar and most important advantages of the present system. The provision of money for extraordinary expenses, during war more especially, must never be confided to measures of uncertain efficacy; and the failure of any one attempt to provide it, now that the success of war so greatly depends on pecuniary means, may be more dangerous, and in a nation far advanced in civil economy would create greater despondence, than the loss of an important battle.

We have been solicitous to make these remarks, at the present stage of the public opinion with regard to the work of professor Hamilton, be-

cause, although we adopt nearly all the principles he has laid down, and believe that his arithmetical calculations are generally correct, yet we differ very materially from him in the practical application of them to the extinction or diminution of our national debt. We are not yet convinced that the plan first adopted by Mr. Pitt for that purpose was not far more wisely constructed, with a view to its stability and to the general good consequences arising from it, than the system of which a preference is implied in the reasoning of professor Hamilton. We cannot deny that its mechanism is somewhat more costly, but we think the difference amply compensated by its more durable construction. We do not altogether approve some of the changes of the original plan, and still less some essential deviations from it; but, with respect to other modifications of it which have been adopted, we have no doubt that they had in view the very same principles which the professor has so ably established, connected, however, with such practical arrangements as have greatly contributed to their adoption, and without which we are quite convinced that their adoption in any very useful extent would have been altogether impracticable.

The professor proposes, '1. To lay down some general principles, which if established would lead to general conclusions concerning our financial system, and in a great measure supersede the necessity of examining particular plans which have been proposed or adopted.'

'2. To give a narration of the manner in which we have proceeded in conducting and accumulating our public debt, and a statement of its present amount and annual charge, and an account of the plans which have been proposed or adopted for its discharge, and their operation. The necessary tables in illustration of these particulars will be subjoined in an appendix.'

'3. By means of these general principles to scrutinise the efficacy of the schemes to which we trust for the relief of our national burdens; and examine the propriety of the methods we have adopted in conducting our financial operations.'

In conformity with this plan he begins the first part of the subsequent enquiry by stating a series of 'general principles of finance.' Without meaning to be hypercritical, we would rather have called them propositions, as indeed the author himself does afterwards; for instance, the unqualified statement, in the latter part of the second of them, that 'we are already far advanced to the utmost limit of taxation,' is neither a general principle of finance nor an inference from any principle, but an assertion of a fact which requires distinct proof, and of which no proof is given. Connected as it is with the preceding part of the sentence, it means the utmost limit of the amount of revenue obtainable by taxation, which, from his observations on the same subject a few pages after, we are sure the author cannot have intended, which allows nothing for the present rapid progress of population and intrinsic national wealth, and makes no distinction between the difficulty of multiplying taxes, or of increasing their rate; nor be-

tween indirect and direct taxation. We are quite convinced that the assertion is unfounded in that sense in which it is likely to be generally interpreted; and, if unfounded, without any doubt inexpedient.

He gives as a reason for examining minutely the principles which he has stated, that although they are 'incontrovertible, or inferred by a very obvious train of reasoning, yet measures inconsistent with them have not only been advanced by men of acknowledged abilities, and expert in calculations, but have been acted on by successive administrations, and annually supported in parliament, and ostentatiously held forth in every ministerial publication.' We readily allow that measures have been recommended upon principles, and by arguments, inconsistent with the truths which professor Hamilton has so ably established; but we must think the latter part of these assertions a great deal too unqualified; and we expect to prove that Mr. Pitt and others who have succeeded to him have not adopted measures inconsistent with his principles, but have clearly comprehended them, and regulated in conformity with them the more important parts of their arrangements for the redemption of our public debt.

In his remarks on the principle of redeeming debt by appropriated sinking funds, increasing by compound interest, professor Hamilton has given a series of perspicuous arithmetical statements, which demonstrate the futility of some opinions on the subject, that we would rather call vulgar than popular; because, as far as our observation has extended, few, if any, intelligent persons have ever been so much deceived by the magic of numbers, as to believe that the national debt can ever be diminished but by an average surplus of revenue beyond the average expenditure. The error has long since been refuted in various publications, and particularly by Sir F. D'Ivernois.

The professor states that 'the point at issue is, whether, taxation and expenditure being the same, a sinking fund produces any beneficial effect?' Certainly not, if this is the only point at issue. If we are to limit our views solely by arithmetical calculations of direct profit and loss, we cannot discover that a sinking fund has any peculiar advantages in diminishing debt, or retarding its increase; and it may be that the same money may be employed with equal efficacy by less expensive mechanism. But we have before stated that the mechanism of our sinking fund appears to us to have been originally framed, and since improved, with far more extensive views of political economy.

The second part of the professor's work contains a useful history of the present public debt of Great Britain, from its commencement; and to this we beg to refer the reader as a valuable moral. The first section of this part describes concisely the methods of borrowing the funded debt which have successively been adopted, and subjoins a clear arithmetical statement of its progress. The second section is employed in describing the plans which have been adopted for the reduction of the funded debt, and their operation; and the third in stating the nature

and amount of the unfunded part of the public debt.

The *third* part of the work contains an examination of plans for the redemption of the national debt, and other financial operations, in four sections; of which the first examines Dr. Price's views of finance; the second reviews Mr. Pitt's sinking funds; the third comments on the plan introduced by lord Henry Petty; and the fourth contains an examination of the system of funding by increase of capital.

The object of the examination of Dr. Price's plans is to disprove the arithmetical principle on which he founded their efficacy. To us it has always appeared that the Dr. perplexed himself, and a large proportion of the public, by a distinction without a difference between his first and second methods of employing a sinking fund; meaning, as we believe he must have done in both cases, a real fund, and not one existing in form only; that is, an actual average surplus of public revenue beyond the average expenditure for all other purposes. Without doubt this only can be a real and efficient sinking fund; but yet it appears to us that the form and mechanism of an uninterrupted sinking fund, alternately real and nominal, that is, acting during war as well as peace, though over-balanced in the former case by increasing debt for military expenses, and even itself causing some increase of expense, may, nevertheless, have peculiar efficacy in facilitating the creation of a surplus revenue.

The indistinct view which Dr. Price seems to have had of his own arguments, or his want of precision in explaining them, is, we think, evident, in an assertion quoted by professor Hamilton.

'A state may, without difficulty, redeem its debts by borrowing money at an equal or even a higher interest than the funds bear, and without providing any other funds than such small ones as are necessary to pay the interest of the sums borrowed. In private life such a measure would be justly deemed absurd; but in a state it would be the effect of the soundest policy. It is borrowing money at simple interest, in order to improve it at compound interest.'—p. 125.

The first part of this assertion is not untrue; but yet is only a sort of arithmetical riddle, calculated to produce useless wonder, and fitter for the ladies' diary than for a practical essay on one of the most important questions of political economy. If in the next part of the sentence he had said 'increase of revenue, &c.,' instead of using funds in the double sense of capital and annual income, his real meaning would have been more correctly expressed. He goes on to make a distinction between the application of this proposition to private and public debts, which it is doubtful if he himself rightly comprehended. In truth, there is no arithmetical difference; but it may be in 'extent of sum and duration of time,' as professor Hamilton has clearly shown. In either case, and adopting any mechanism of finance, a continual deficiency must increase a previously existing debt; and a continual surplus, unless hoarded, may diminish it by the progress of compound interest, varying

in efficacy according to the contemporary profit of money. Yet we can conceive that such an alternately real and nominal sinking fund as we have described may, from collateral causes, be very fit to be adopted as a national measure, though little adapted to exonerate a private estate. If in either case, whether public or private, the system itself can be made efficiently instrumental in creating an increase of revenue, which might not otherwise have been obtained, that increase, in whatever manner applied to extinguish debt, whether contingently or by a strictly regulated appropriation, is substantially a sinking fund; but in neither case is one step advanced towards extinction of debt, by borrowing with one hand to redeem with the other, unless at a lower rate of interest; and then the difference saved, if so applied, is as truly a sinking fund as an equal increase of surplus income would be by an augmentation of the amount of it. If, however, the adoption of a permanent sinking fund may give to a nation means of augmenting its income, which cannot be adopted at all in private life, or can only be adopted in a very limited extent, in that case a difference arises which so far only may justify Dr. Price's distinction. Where not instrumental in increasing the revenue, so far as is necessary to pay the interest of the sums borrowed, the measure in public or private affairs will be absurd; but, if it may be made thus instrumental in the one case and not in the other, the distinction is so far defensible.

As to the latter part of Dr. Price's assertion, 'that it is borrowing money at simple interest in order to improve it at compound interest,' his meaning no doubt was that, if 'additional funds are provided to pay the interest of the sums borrowed,' the new debt will not increase by compound interest, while the old debt will be diminished in that proportion; and with this proviso the truth of his assertion is indisputable, although announced in a manner more adapted to surprise the reader than to instruct him. True it is, that either the existing revenue must be made more productive, or new taxes must be levied to add to it; and it may be that these subtract as much from private incomes as they add to the public income; but, whatever may be the pressure thus created, it would equally be felt by an equal increase of income applied to diminish debt, or retard its progress in any other manner. So far as respects the public purse the effect is the same as that of simple opposed to compound interest. We admit there is in this nothing peculiar to an appropriated and permanent sinking fund; but we think there are other solid grounds on which it may be defended.

In justice to the memory of Mr. Pitt, we must say that we cannot discover any sufficient reason for imputing to him that, dazzled by the imaginary omnipotence of compound interest, he rather looked to that for the efficacy of his fund than to its utility as a powerful instrument in obtaining the consent of the nation to make its public revenue gradually more equal to its average expenditure. His system, as adapted to the case of a preponderating increase of debt, in 1792, included a concurrent increase of revenue, even

more than necessary to pay the interest of the money borrowed for the use of the sinking fund.

We are the more anxious to explain our opinions of this assertion, quoted by professor Hamilton from Dr. Price, because it appears to us that it involves the main grounds of their different views of the utility of permanently appropriated sinking funds. Both of them have viewed the question rather arithmetically than politically. We think it clear that Dr. Price is correct in his calculations of the arithmetical effects of borrowing to repay or redeem, when that system is accompanied by an increase of income in due proportion to the interest of the new debt. But we also think professor Hamilton perfectly correct in denying that this is at all peculiar to the system in question.

We, therefore, neither defend the system on Dr. Price's arithmetical principle of compound interest preponderating over simple interest in the opposite scale, nor do we think it follows that the system is erroneous because it cannot be defended on that ground, or even because, by an arithmetical calculation of direct profit and loss, it may appear that its mechanism creates a greater expense than would be incurred by other means of employing the same annual revenue to produce the same or equivalent effect. Here then is the point at which we differ from professor Hamilton. He undertakes to demonstrate arithmetically that, instead of diminishing our debt, we have increased it considerably, by unremittingly persevering in borrowing to redeem since 1792. And, indeed, in one respect this must be so far true, that the charges incurred by contracting new debts to pay off old ones can hardly be computed on an average at less than five per cent.; and the more extensively this is done the greater will be the loss, unless compensated by adequate advantages. To us, however, it appears, that the system, as constructed in 1792, and usually followed since that time, has really caused a saving of expense very far exceeding this cost of it.

We believe the public in general are little aware of the efficacy of the system, in extinguishing that portion of the debt which is created on account of it. If the whole debt were only such that it might be redeemed in one year this would be obvious. Suppose a debt of £10,000,000, borrowed from new creditors to pay off old creditors, at the same rate of five per cent. interest on a five per cent. capital. Of the previous national revenue, £500,000 per annum was before appropriated on account of this debt, and by the transaction an obligation is incurred to add £600,000 a year more, namely, £100,000 to the fund, and £500,000 for interest to the new creditors. Wherefore, the real sinking fund created by borrowing £10,000,000 to redeem £10,000,000 on this plan, is not merely £100,000 but £600,000 or the whole addition on account of it.

The substituted debt, therefore, will be redeemed by this fund in little more than twelve years and a half, if employed at five per cent.; or than thirteen years, if employed at four per cent.; or thirteen years and a half, if at three per cent. But the charges of the transaction may average about five per cent. Consider these

as to be first deducted from the annual produce of it, and even then the terms of complete extinction of the substituted debt will only be protracted about ten months, becoming thirteen years and a half, fourteen years, or fourteen years and a half, according to the rate of compound interest. This is the true effect of the system, although its real efficacy is concealed from cursory observation by the indiscriminate manner in which the sinking fund has, in practice, been applied to the purchase of the debt.

We have no more respect than Professor Hamilton for the Stock Exchange arguments on this subject: but, if we consult the history of human nature, we think it will furnish unanswerable reasons in favor of what we consider as the true principle of the system. We do not mean to defend every modification of it, nor its adoption in an unlimited extent; for we can conceive nothing more mischievous than it would be if carried beyond convenient limits; which, indeed, was the chief objection to the plan of lord Henry Petty. On this subject the professor himself admits that, 'In regard to the increase of taxes, we are of opinion that the sinking fund has had a real effect in calling forth exertions, which, although they might have been made as well and as effectually, would not have been made unless to follow out the line which that system required. A loan is made, and the revenue is considered as charged, not only with the interest, but a certain proportion of the principal, annually. Taxes are imposed to meet the one as well as the other. If the sinking fund had not been in view, it is likely taxes would have been imposed for the interest only.'

We would here make a remark, which perhaps more directly applies to a former part of his observation on Mr. Pitt's plan, as adapted to a war system in 1792, namely, that when a loan is contracted for the two-fold purpose of defraying an actual excess of expenditure beyond the revenue, and of redeeming a part of the debt already existing, according to the manner in which Mr. Pitt's system has hitherto been carried into execution, the real appropriation for the extinction of that debt is not merely one per cent. on the new capital, but also a continuation of the whole interest of the money in this manner employed. With regard to the real increase of debt, that is, the excess of loan beyond the contemporary produce of the whole sinking fund, the appropriation, being only one per cent., operates in the manner and at the rate described in this work. If we could borrow at par in a five per cent. fund, the appropriation being six per cent. would, for the debt really contracted, be five per cent. to the lenders, and one per cent. to redeem the capital: but calculating the cost of the transaction at five per cent. this will be nearly, though not exactly, equal to the first five years of the one per cent. annuity. If that cost, being blended with the other national expenses, is nowhere distinctly stated, and paid in some other manner, this may alter the sums on both sides of the national account, but will not alter the balance. But with regard to the part of the loan borrowed to redeem former debt, and so applied, the augmentation of the fund is an annuity of about six per

cent. commencing its real operation after ten months only, instead of five years. If, in providing for our annual loans, we only levied an increase of revenue equal to the interest and appropriation for the actual increase of debt, we apprehend this would be precisely the view which the professor has taken of the question. But if a large proportion of those loans is employed to pay off debt already existing, and the effect of the system has been to induce the public to agree to an augmentation of the revenue in due proportion to this part also of the new debt, the progress towards equalisation of income and expenditure is very greatly accelerated, and also the period is greatly shortened during which in peace the debt may be extinguished.

To us the system adopted by Mr. Pitt, in 1792, has always appeared to have been a very ingenious and efficient way of rapidly approximating the income and expenditure. We have too high an opinion of his perspicacity not to believe that he had this in view at that time, or to doubt the plan he would have proposed whenever they should really be equalised. His plan has the twofold advantage, that it creates an artificial necessity of increasing the revenue whenever such an increase may be politically expedient; and that it fixes apparent and definite limits to the systematic extent of that increase: it counteracts the reluctance to submit to new taxes by the former circumstance, and any fears for excessive augmentation and improper application of the public revenue by the latter.

Here we think there is a possible and even probable effect of the system, which could hardly have been obtained in any other manner, and which, though it may sometimes cost ten months value of the revenue appropriated, must amply recompense this expense by its general advantages.

To give some idea of the effects of the system of 1792, if exactly followed, let us suppose, that at some period the real excess of expense beyond the revenue being only £3,000,000, but £9,000,000 of the revenue being appropriated, a loan of £12,000,000 would be wanted. This was nearly, though not exactly, the case when a new plan of finance, so severely censured by professor Hamilton, was proposed by lord Henry Petty. In a five per cent. stock at par, the requisite augmentation of the public revenue for such a loan would be £720,000, or it would be £800,000 if the capital created were a three per cent. stock, at £60. In either case, the real increase of debt being only £3,000,000, the real appropriation for its interest would be only £150,000; but if so, then the remaining appropriation, whether £570,000 or £650,000 is nineteen per cent. in the first case, or thirteen per cent. in the second case, of the real contemporary increase of debt. The augmentation of income in the second case, which is practically more familiar, if employed at a profit of five per cent., would redeem its corresponding debt, and pay the charges incurred by the loan in little more than five years, nor would the period be much extended at four or even three per cent. We therefore really make provision in this case for redeeming the contemporary debt in about five years; and any dura-

tion of this addition to the fund beyond five years is employed in extinguishing antecedent debt.

If, after an equalisation of revenue and expenditure, the system might conveniently be allowed to operate according to Mr. Pitt's plan of 1792; in that case most obviously the whole appropriation would be to increase the means of redeeming old debts. But, as no new debt would be contracted beyond the amount of debt redeemed, the effect might be a very inconvenient increase of the revenue beyond the actual expenditure even in war. Experience and common sense in any such case would suggest how to regulate the operation of the fund, or, it may be, show the expedience of altogether suspending it. We shall hereafter advert more fully to this topic, but at present we need only observe, that the principle on which we justify the system established by Mr. Pitt is by no means shaken, because that system may require limitation when it has already accomplished the most essential part of its duty; and because it may be found expedient to regulate its progress according to political circumstances, and in due proportion to the work which may remain to be performed.

We must refer our readers to the third section of this part of professor Hamilton's work, and to the tables connected with it, for a very perspicuous analysis of the plan introduced by lord Henry Petty. The arrangements of this plan were so ingenious (as far as they were new) that they necessarily created a great prepossession in favor of it; for a time it was popular, and, as often happens in similar cases, the more prominent feature of it was admired while its defects were overlooked, or considered as of no important consequence. The great defects of this plan were, that, so far as it was really new, it pushed to an extreme the peculiar expense of the system of borrowing to redeem, while it abandoned the only important compensation for it; for in fact it evaded the proportionate contemporary augmentation of the revenue to the extent of its peculiar loans, by selling, though for a limited period, portions of the disposable revenue which already existed. Instead of adding six per cent. to the revenue on account of those loans, it subtracted ten per cent. annually for their amount from the means already provided to carry on the war: and this at a time when its expenses were already very great, but when it appeared highly probable that by perseverance in the system already established, the public revenue and expenditure would soon have been equalised. If it is alleged that the unexpected war in the Spanish peninsula would have disappointed that hope, it is equally true that the same circumstance would have overwhelmed the mechanism of the substituted system.

The fourth section of this part of the professor's work is intended to demonstrate the wasteful imprudence of funding by increase of capital. Premising that, on many accounts, we must disapprove of the system of creating a greater funded capital than the amount of the money borrowed, we yet materially differ from him in many parts of this argument, which we think very much overstates the loss which may have

been incurred by that system since 1793; and which overlooks that in certain proportions of comparative prices it may be highly probable, that, in an arithmetical balance of loss and gain, a considerable present and ultimate saving may arise from borrowing at a reduced rate of interest by creating a greater amount of capital. This was evidently true on a comparison of three per cent. and four per cent. stocks for some time after the latter fund was created.

The only correct way to ascertain the comparative loss or gain which has resulted from the different systems of borrowing which have been adopted since 1792 is by a comparison of the market prices of the respective stocks and of exchequer bills when each loan was contracted; and also by considering what might be the difference of depreciation consequent on funding a large sum rather than a small one in any particular stock, and for which the contractors would expect in some way or other to be indemnified. For these reasons we more than doubt the accuracy of professor Hamilton's inference, from the comparison he has instituted between the cost of raising money by loans, and by funding exchequer bills from February 1793 to February 1812. The method of comparison is inaccurate; and, if accurate, the inference from it depends entirely on assuming that the whole debt might have been borrowed in a five per cent. stock, with no greater loss by allowance for depreciation than small sums might produce. We by no means deny that, during this period, it has been sometimes more profitable to borrow by creating five per cents. than three per cents., and that probably this might have been done with advantage to a somewhat greater extent; but we doubt whether the difference of cost would have been in any proportion so great as may be inferred from the statement we have referred to; and we must consider the question as depending very materially on contemporary circumstances as to pecuniary profit. We, however, attach no small importance to a reduction of the nominal magnitude of the funded capital, believing that, in spite of all dry calculations, a debt of £500,000,000, though at three per cent. interest, sounds more formidable than one of only £300,000,000 at five per cent. We therefore should gladly see realised the professor's idea of creating no more funded capital than the amount of the loan, and making up the difference by some other arrangement. We cannot think that this could be economically done by giving a long annuity in all cases, but probably the political benefit would amply compensate any small increase of expense. We will only add upon this subject that, for a considerable time, there has been an evident disposition on the part of those who have directed our finances to keep down as much as possible the nominal magnitude of the funded debt; and that, if borrowing by a five per cent. stock has not hitherto been adopted to the extent that might be wished, it has been because, in that extent, it has usually been impracticable without great loss by depreciation.

To the account given by professor Hamilton of the progress and manner of conducting the funded debt, we wish here to add some circum-

stances which we believe are very little known, even to those who have a general acquaintance with the history of our finances; many of whom will perhaps be surprised to hear that the plan of providing one per cent., in addition to the interest or perpetual annuity for the redeemable capital of debt incurred, was actually adopted in the very first instance in which any such debt was created. It was not indeed persevered in, and appears to have been totally forgotten; nor is there any reason to suppose that Mr. Pitt was aware of it in the year 1792 when he adopted precisely the same principle in his modification of his system for extinguishing the national debt, as applied to any future increase of it.

During many years after the revolution money was obtained for the public service, in addition to the revenue, by selling annuities for lives or for terms of years. Portions of the revenue were appropriated as funds for securing the regular payment of those annuities; and hence the origin of the distinction between funded and unfunded public debt. Large sums also had been borrowed of the bank of England, and other trading companies, at stipulated rates of interest until redeemed; but without any specific provision for their repayment.

The first instance of procuring money for the public use by creating what have since been called perpetual annuities was in the year 1711, when Harley, afterwards earl of Oxford, was chancellor of the exchequer. The legal interest of money at that time was six per cent.; and in the preceding year £1,500,000 had been procured by giving for it annuities to continue thirty-two years, at the rate of nine per cent. during that period. Two acts were passed in the year 1711 (9 Anne) for borrowing money at six per cent. interest, and the principal to be repaid. As in the former year the annuities created were only to last during thirty-two years, and consequently the burden on the public which was caused by them would then terminate, so in this year a provision for the debt and its interest was made, to continue only during an equal term of thirty-two years, beyond which period no fund or security was provided, either to discharge the interest or repay the principal money which had been borrowed.

Instead of this, however, so much public revenue was created and appropriated as would not only pay the annual interest, but give a surplus sufficient to repay the money borrowed during the period of its continuance and appropriation.

By the first of these acts £1,928,570 was borrowed, and the annual sum of £135,000 during thirty-two years was appropriated, being (with the excess of a very small fraction) six per cent. for interest, and one per cent. to pay off the principal. But one per cent. annually employed to pay off portions of the principal debt at six per cent. interest, together with the redeemed interest in like manner employed, or, in other words, one per cent. per annum, improving at six per cent. compound interest, was not quite enough to extinguish the debt within the period limited, and the deficiency was made up by an adequate addition to the annual sum appropriated

by the second act of the same year. By that act £2,602,200 was borrowed, and the annual sum of £186,670 was appropriated. Six per cent. for interest, and one per cent. for a sinking or redeeming fund, as provided in the former instance, would only have required an appropriation of £182,154; but £1 a year, improving at the rate of six per cent. compound interest, would not amount to £100 in less than almost thirty-three and a half instead of thirty-two years. It was therefore necessary either to prolong the term, or a little increase the annual appropriation, and the latter course was adopted. By adding £4516 a year, on this occasion, a sufficient provision was made (if strictly employed) to pay off both the debts within the limited term.

	Principal borrowed.	Debt created.	Sinking fund.
	£	£	£
By the first act	1,500,000	1,928,570	19,285
By the second act	2,000,000	2,602,200	30,538
By both united		4,530,770	49,823

These united funds, improved at six per cent. compound interest, would, in thirty-two years, amount to £4,528,392 16s., or only £2377 4s. less than the sum to be discharged; but, as some of the duties imposed for this purpose were to take place at an earlier time than the commencement of the interest, this circumstance more than compensated the above-mentioned small deficiency.

It is evident, therefore, that, in the very first commencement of our funded debt, the principle, though not the name, of a sinking fund, was systematically adopted, and the appropriation to pay off each debt respectively was, in the first instance, at the rate of one per cent. of the debt to be redeemed, and afterwards, just so much more as (if duly employed) might pay it off in about thirty-two years.

We have been the more desirous to explain fully the principle and extent of the provision to pay off debt contracted as it was first introduced by Mr. Harley, on account of its remarkable agreement with the plan of Mr. Pitt in the year 1792, to provide for the separate redemption of every debt which might after that time be funded, by an annual appropriation of one per cent., in proportion to the capital created. In this first instance, the money borrowed was only, as already stated, £1,500,000, but the appropriation was one per cent. on the debt funded.

Not long after the peace of Utrecht various plans were proposed for accelerating the repayment of the whole national debt; and the great reduction of the rate of interest at which money might be borrowed by private persons, naturally suggested that by a similar reduction of the interest paid by the public an important annual saving might be made, which might be advantageously employed in redeeming the principal money of the national debt. Sir Robert Walpole was at that time chancellor of the exchequer, and as a preliminary step to such a reduc-

tion he had obtained an act for reducing the legal rate of interest on all private debts from six to five per cent. In March 1716-7, he introduced his plan in the house of commons, and fourteen resolutions were agreed to, which, if they had afterwards been adopted in their full extent, would have provided the means of paying off the whole debt, including the temporary annuities, within about thirty-five years. A part of his plan was to compute the temporary annuities for redeemable capital at five or four per cent. interest, whichever, according to the terms proposed, might be most agreeable to the present proprietors of them. But a change of ministers took place before the bills, founded on his resolutions, were introduced, in consequence of which this important part of his plan was abandoned. On this occasion three acts were passed, by one of which several former funds, which had been created to pay the interest and principal of certain debts, were united into a general fund, and a provision was enacted to make good any deficiency of it in any quarter of a year in which it might happen, out of the first aids granted by parliament. The amount of this general fund was £724,839 6s. 10½d. The two other bills related to the reduction of interest paid to the bank and the South Sea Company.

As very considerable mistakes have been made respecting the produce of the sinking fund, established by these bills, we have referred to the journals of the house of commons, and the various acts which bear on the question, and we believe the following statements are very nearly correct.

The general fund was made up in the following manner:—

Annual sums appropriated for interest and to repay the capital of debts contracted in 1711 and 1712, by lottery loans	£657,676	0	0
Average surplus of taxes imposed on account of those debts, which was now added to the previous appropriation	27,317	11	3
Annual sums which had been appropriated to pay bankers' annuities	39,855	15	7½
	<hr/>		
	£724,849	6	10½

In the first of these annual sums was included £104,806, originally appropriated beyond the interest of the capital debts created and added to repay them, and also £22,399 15s. which was the amount of interest of debt that had been paid off.

Various debts were charged on this general fund, for which no provision had been previously made, or the temporary taxes appropriated to them had expired. By the recital in the South Sea Act (6 Geo. I. 1719) it appears that the total charge for interest of the original debts, on account of which parts of this fund had been previously appropriated, amounted

to	£476,717	17	8
And for the debts added by authority of the act, in- cluding two large sums for deficiencies and army debentures	}	102,036	13 2
And by two subsequent acts			
	<hr/>		
	£584,293	11	1¼

The author of the History of Debts and Taxes states this sum as only £520,000 a year; and Rapin more nearly at £570,580.

The surplus, therefore, made applicable to pay off the debts charged on this fund was

	£140,555	15	8½
The difference saved by the bank reduction was }	}	130,332	9 11½
And by the South Sea reductions . . . . . }				100,000	0 0

In all £370,888 5 8½

The surplus of the general fund was made subject to any deficiencies of the South Sea fund below the original appropriation of £608,000; and on the other hand might be increased beyond the amount of £724,849 6s. 10½d., if the taxes should produce more than that sum, for it was provided that the whole surplus produce of those taxes, beyond the interest payable out of them, should be applied to pay the principal money, and that any deficiency below this sum in any year should be supplied out of the general revenue.

It is evident, therefore, that (subject to variation from these causes) the original sinking fund amounted to £370,888 5s. 8½d. We know not on what grounds Sir John Sinclair has stated its actual amount at £336,000 only, and professor Hamilton at only £323,439, for it appears by the recitals in the act 5 Geo. I. when part of the produce of the new sinking fund was applied to assist in paying off exchequer bills held by the bank, that during the preceding year its amount had been as follows:—

General fund	£320,436	15	11½
South Sea	19,577	10	0
Aggregate	196,444	18	3½
	<hr/>		
	£536,459	4	2½

As the clause in the general fund act, by which these surpluses were appropriated, has been more than once incorrectly quoted, we give the words as they stand in it. The clause enacts, 'that all the monies to arise from time to time as well of or for the excess or surplus of an act made this session for redeeming the funds of the governor and company of the bank of England, and of or for the excess or surplus by virtue of one other act made likewise this session for redeeming the funds of the governor and company of merchants of Great Britain, trading to the South Seas and other parts of America, and for encouraging the fishery, as also of or for the excess or surplus of the duties and revenues by this act appropriated as aforesaid; and the overplus monies of the said general yearly fund, by

this act established, shall be appropriated, reserved, and employed to and for the discharging the principal and interest of such national debts and incumbrances as were contracted before the 25th day of December, 1716, and are declared to be national debts, and are provided for by act of parliament, in such manner and form as shall be directed and appointed by any future act or acts of parliament, to be discharged therewith or out of the same, and to or for none other use, intent, or purpose whatsoever.'

The next considerable reduction of the interest of the national debt was connected with the South Sea scheme, by means of which the part of Sir Robert Walpole's original plan that related to a commutation of the temporary annuities was carried into effect; and at length, by the ultimate arrangement in settling the affairs of the company after their bankruptcy, there resulted, from this commutation and other circumstances, a reduction of the annual payment for interest and annuities which amounted to about £377,000. The profit of money employed in private loans continuing to diminish, Mr. Pelham was enabled to make a third reduction of the interest of the national debt in 1749, by which an annual saving was made of about £565,000. All these measures, if in each case the saving had been applied solely to pay off pre-existing debt, and 'for none other use, intent, or purpose whatsoever,' would have been very efficient.

If the original sinking fund had been strictly employed, according to its original intention, it would have redeemed the whole funded debt which then existed, and which amounted to about £33,700,000, within thirty-six years; and, although the subsequent reductions of interest would have diminished the profit derived from employing the fund and its gains, yet they would have at once increased its amount so much as to shorten considerably the period in which its object would have been accomplished. Nothing indeed can be clearer than the meaning of the act by which it was established; but plausible reasons were given for the application of a portion of its revenue to pay the interest of new debts, and for other contingent purposes; and the consequence was, that little progress was made in redeeming the debt during peace, that in war it continued to accumulate, and, at last, any regular system for redeeming it was abandoned, and no progress at all was made but by the casual employment of any surplus of the whole revenue which might be saved during a peace.

It may be doubted, whether the unfortunate deviations from the original plan, which took place at an early period, would have happened if there had been any thing alarming in the state of public credit. If at that time the transferable value of the stocks had been in a declining state from any causes, however foreign to the funding system, or the magnitude of the debt, a strict application of the whole sinking fund would have been necessary to quiet the fears of the public creditors; and periodical evidence would have been called for of the progress made in redeeming their depreciated property at its ori-

ginal value. But at that time circumstances, wholly unconnected with our national debt, contributed to lower very much the profit which could be made by lending money to private persons; and consequently, not only to increase the transferable value of all irredeemable incomes, but also of any others of which the repayment would probably be distant. It cannot be expected that there would be any strong feeling of the propriety of an undeviating application of the sinking fund to its original purpose, at a time when the public creditors were necessarily more afraid of being called on to receive the money due to them, than that it never would be paid off at all. The state of the English public funds, for many years, was such that the stockholders received much less than the legal rate of interest for their capitals invested in them. The great cause of this was the very low profit of money in a neighbouring country, with which, at that time, we had most extensive commercial and pecuniary connexions. By a long period of great industry, economy, and commercial prosperity, *Holland* had acquired an immense superabundance of capital, beyond what it could continue to employ at home with any adequate advantage; the commerce of that country having already passed its greatest extent. Contented with small annual returns, rather than to let their capitals remain wholly unprofitable, the monied men of the republic continued therefore to invest large sums in our funds, notwithstanding the reduced rate of interest, because it still continued higher than in their native country. To them, shares of our national debt were a much more convenient property than debts from private persons in a foreign country, and therefore they would be satisfied with smaller profit from them than the common rate of private interest; and would oblige those among ourselves who might choose to purchase stock, to give as high a price as they were ready to do. At that time the very high credit, or rather marketable value of our stocks, was not so much a proof of our own prosperity as of the superabundance of capital in *Holland*; and the annual interest paid to that country absorbed a considerable proportion of the produce of our industry. In such a state of things the successive reductions of the annual interest of the national debt were measures of obvious and unquestionable policy, and would have been exceedingly advantageous, if, instead of promoting an increasing indifference respecting the redemption of the debt, they had been accompanied by such regulations as would have preserved the original sinking fund in full activity. As the reduction of interest on the capital to be afterwards redeemed or repaid would have diminished the rate of increase of the sinking fund by compound interest, and as the amount of that diminution was a question of easy calculation, so much therefore out of the saving effected by these reductions might have been added to it as would have been a compensation for the diminution of its profit, and the remainder might have been fairly applied to the general use of the nation. Instead of this, the whole system was neglected. We are the more desirous to impress these observations, because we can anticipate

the recurrence of similar circumstances, and even to an extent which may make it difficult to carry on the progress of a sinking fund on any other than a very moderate scale; and altogether impossible to carry it on with the increasing rapidity of compound interest. On the former occasion, the operation was suspended before the experiment could fairly be tried; but it may hereafter be found, that the difficulty of employing the means of paying off a great national debt is at least equal to the difficulty of providing them; equally attended with such private inconveniences as are sure to be exaggerated by the clamors of faction, and alike productive of many moral and political disadvantages. We do not mean these remarks, and others which we shall hereafter make on the same subject, as adverse to the principle of a sinking fund when properly regulated, but as cautionary against the very dangerous opinion that we may contrive to toil uphill as speedily as we have descended, and need take no concern for the magnitude of debt contracted relying on the omnipotence of compound interest for its easy redemption.

The two reductions of interest of the national debt, which have led to these remarks, can by no means be considered as having had for their primary object the diminution of the capital of the national debt by increasing the means of repaying it, although that consequence might contingently have followed, but as intended to improve the revenue for general purposes. In fact, therefore, after the commutation of the temporary for perpetual annuities, which was a part of Sir Robert Walpole's original plan, and was the foundation of the South Sea scheme, no attempt was made to augment the sinking fund originally established, nor any one measure adopted to enforce its due application.

We have thus at the hazard of some prolixity traced the history of this important fund to the state in which it was when Mr Pitt became minister. A long and very expensive war had greatly increased the funded debt, and left an immense floating debt, at a ruinous discount, wholly unprovided for; the public credit was very low, the value of lands and of their produce had fallen, consequently the value of the capital and income pledged for the payment of the interest and principal of the national debt seemed to be diminishing; many works of great expense which had been undertaken still remained half finished; and although there can be no doubt that some increase of the intrinsic wealth of the country had taken place, even during the war which led to these consequences, yet the pecuniary means of giving to it its usual commercial value were grown scarce. In this situation of things we do not so much extol the political courage of Mr. Pitt in proposing an efficient sinking fund (for some very strong measure to restore the opinion of the efficiency of the national resources was become necessary), as we feel the prudence with which he considered the defects of the mechanism of the plan adopted in the year 1717, and the good sense of the regulations by which he corrected them.

The most important defects in the mechanism of the plan adopted in 1717 were, that it did

not separate the fund from the general account in such a manner as to make it ever after a distinct object of political observation; that it did not, by creating for it a separate administration, increase the ministerial difficulty of perverting it from its original purpose; and did not contemplate that the progress of such a fund, at compound interest, might increase to an unnecessary and even inconvenient extent. When Mr. Pitt proposed his new sinking fund, in the year 1786, the reduction which had taken place in the original interest of the ancient national debt, and the plan, which had been adopted to a great extent, of borrowing money at a low rate of interest on a capital of far greater nominal amount than the sum borrowed, made it necessary to propose that, instead of attempting to repay the existing debt according to its nominal value, a plan should be adopted by which it might be at all times redeemed according to its actual value, by employing fit agents to purchase stock at the market price for the public benefit. Well aware that the actual public revenue of Great Britain at that time was barely equal to the cost of a moderate peace establishment, and that without a real surplus of revenue any attempt to reduce the heavy load of national debt would be a mere illusion, he had the courage to propose an addition to the taxes great enough to allow of an annual payment of £1,000,000 to commissioners appointed to act as managers for its employment in redeeming the debt, and as trustees for the portion of it which by these means might be transferred to them for the use of the nation.

Every precaution was adopted to provide that the new sinking fund should be so promptly and regularly employed as to derive the greatest practicable increase by the profit of compound interest, until it should have grown to such a magnitude as to make its future improvement no longer necessary, or even perhaps expedient. We are not aware of the reasons which induced Mr. Pitt to fix on the sum of £4,000,000 a year as the highest amount of his fund; but it is evident from this limitation that he did not adopt the profit of compound interest as a permanent and essential principle of his system, but only as a very convenient aid in augmenting his fund till it should become great enough to be afterwards employed in redeeming the remaining debt by equal annual payments. Though he readily and skilfully availed himself of every hope which his plan was calculated to excite, yet he had too strong a judgment to have adopted this restriction for no better reason than to display the remote prospect of a gradual and very slow diminution of the heavy burden of the debt, after twenty or thirty years of patient submission to an additional million a-year. Nothing so frivolous could be the motive which prompted Mr. Pitt to introduce this very important restriction. Every precaution was also taken by him to make the progress of redemption by his sinking fund as regular and as public as possible. Its management by being laid open might be constantly scrutinised by numberless persons well qualified to detect any frauds or errors, and

all temptation to misconduct was counteracted by the certainty that it must be discovered.

The progress of redemption might have been exactly the same, if, considering the stock purchased by the commissioners as cancelled, the periodical reports should only have stated the increase of the fund, omitting any statement of the capital redeemed; but their conduct would not in that case have been so distinctly laid open to public inspection, and the efficacy of the system would have been much less striking than by the method which has been adopted, because the sum redeemed so very much exceeds the sum employed, that the magnitude of the effect is far more impressive than the annual amount of the means by which it is produced. By these arrangements a security has been given to the new sinking fund which the former wanted. The whole benefit being often presented to public inspection in the most favorable point of view, the consequence has been that the principle of the system is now generally regarded as of too much importance to be ever abandoned, and many persons feel a sort of timid bigotry respecting the mere mechanism of the plan, which will allow no adaptation of it to times and circumstances.

Six years after the establishment of this sinking fund, in the early part of 1792, when the revenue had become very productive, when the prices of the stocks had become very high, and while as yet few persons in this country anticipated the tremendous consequences of the French revolution, Mr. Pitt very fortunately, as we think, proposed a plan for the separate redemption of any future debt by appropriating one per cent. annually for that purpose until the whole should be paid, to be computed in proportion to the capital created, and not to the sum which might be borrowed. At the commencement of the funding system, while the interest of the debt was at the rate of six per cent. and a right to pay the whole or any part of it at any time was reserved; one per cent. appropriated for that purpose, together with its accumulating profit, would, if duly applied, with certainty pay off the principal money of any corresponding debt in little more than thirty-three years. Money being in 1792 at a much lower rate of interest, the increase of one per cent. per annum, by the profit of its employment, should of course be computed at a lower rate; and no other than a conjectural computation could be made of the time when the redemption might be completed, not only because the system of purchasing stock at the market price must make the actual profit uncertain, but also because the proportion of the sinking fund appropriated to the value of the capital created would depend on the stock in which the new debt might be funded. On this occasion Mr. Pitt assumed that any future debt might be redeemed within forty-five years, at the latest, by employing for that purpose one per cent. per annum, computed according to the capital created, together with its profit by compound interest.

Perhaps even at that time it was probable that the intended redemptions might be made in a much shorter space, but while the three per

cent. stocks were worth more than ninety per centum in money, it might not be very prudent to calculate such a progress as could not be realised but by a great diminution of their value. While at this time Mr. Pitt was providing for the extinction of any future debt, the very flourishing state of the revenue induced him to propose some addition to the sinking fund already established. He proposed to give to it £400,000 out of the receipts for the current year, and to provide that £200,000 should be annually granted to it afterwards by vote of parliament. The principle, therefore, was adopted, that such an addition would be expedient, but the application of it was left to the annual discretion of the legislature, guided by contingent circumstances.

In one point, which has since been of considerable importance, these plans of Mr. Pitt appear to us to have been deficient, though we by no means impute any blame to him on that account, being well aware that often the most convenient way to accomplish all that may be wished is to begin with that part only as to which any prejudices and difficulties may be most easily surmounted. Without doubt all debt contracted by authority of parliament is alike national; the national faith is equally pledged for all of it in whatever shape it may exist, without any difference between the funded and unfunded parts of it. This distinction, indeed, is rather technical than essential, for both cause annual charges on account of interest, which alike abstract from the contemporary revenue sums which might otherwise have been applicable to civil and military purposes. Temporary annuities include, in addition to common interest, a compensation, during the time which they last, in lieu of the capital originally paid for them, and therefore no sinking fund is wanted for them; but all other national debts bearing interest, whether funded or unfunded, must continue to be chargeable till they are repaid or redeemed, and therefore the reason for appropriating a sinking fund extends alike to all of them, if not otherwise provided for. A part, indeed, of the unfunded debt may very properly be considered as only nominal, and merely existing in account, because it is balanced by sums due to the government for revenue in arrear, and from public accountants, or is only an anticipation of sums which will in regular course become due, and by which any money advanced on their credit will be replaced. To this extent no sinking fund can be wanted, because the means of repayment already exist; and it is but justice to add, that in 1792 the unfunded debt did not so much exceed the means of regular repayment as to be an object of any considerable importance. Still it must be regretted that Mr. Pitt's plan in 1792 did not provide a sinking fund in due proportion to any sort of debt which might afterwards be contracted without some other appropriated provision for its repayment.

The unfunded debt in exchequer, navy and ordnance bills, which in January 1793 only amounted to £14,802,375 had increased before the year 1801 to £35,628,099. According to the system of finance hitherto followed, an unfunded debt does not require any specific appropria-

tion of revenue to pay the annual expense of interest, which is defrayed out of the expenses of the year, and included in the sum that must be annually borrowed; whereas with respect to funded debt, if due provision is made, as it ought to be, by additional taxes, for payment of the interest of any addition to it, there is no subsequent increase of the debt on account of the charge of interest. Without doubt many advantages result from allowing a considerable increase of debt to remain unfunded during a war; but the temptation to suffer it to continue in this state rather than encounter the obloquy of proposing an adequate increase of taxes is very considerable; and a debt in this state counteracts the principle of the sinking fund. Experience has shown that it may be very greatly increased without exciting much observation, and in this manner it is left to future ministers and future parliaments to provide, after a war, for the interest as well as the extinction of debts swelled to a great magnitude, of which, till then, the interest had only been paid by an equal increase of money annually borrowed, but on account of which, on the return of peace, either new taxes must be levied or war-taxes must be continued.

The true principle of British finance, as respecting all debt bearing interest, is that an annual revenue should be provided by taxes levied for that specific purpose, in full proportion to all the interest which must be paid; and also that for all the debt which must continue until redeemed, similar means for extinguishing it should be provided. The important deviation from this principle, as respecting the unfunded debt, probably commenced without much observation, while the excess of that debt beyond the actual means of repaying it was inconsiderable. In 1792 the national revenue probably needed no addition to it on account of the annual charge for the unfunded debt, and therefore no blame can be imputed on that account, nor do we mean to censure the omission of an addition to the sinking fund at that time, when the amount unprovided for by other means was immaterial; but the heavy increase of debt which was incurred during the latter years of the war, and the heavy burden on the revenue which must long remain, in consequence of this deviation from that sound principle of finance, both as to borrowing and redeeming, is obviously alike applicable to every part of a real national debt.

In the year 1798 an important deviation took place from the plan of providing a sinking fund, which had been established in 1792, and which was also adopted in the two subsequent years. In the former year the 'aid and contribution tax' was imposed, for which the 'income tax' was afterwards substituted. The principle now adopted was, that after certain appropriations of the produce of these war-taxes, and particularly to pay the interest of any sums which were borrowed on their credit, the whole surplus (if any had arisen) should be transferred to the commissioners for redeeming the national debt, to be applied by them until the whole debt funded on this specific basis should be redeemed, instead of transferring to them one per cent. per annum according to the capital created. The tax was

to continue until the whole debt charged on it should be redeemed. Without doubt, when this measure was adopted, it was hoped that the tax might be continued without inconvenience, and that the surplus would greatly exceed one per cent., and therefore would supersede the propriety of adopting that rate of appropriation. After the peace of Amiens various reasons concurred to make it necessary to repeal the income tax; and, therefore, to substitute new and permanent taxes to a great amount, to provide for the interest of the debts charged on it, and also for the further sum which was then to be funded for the current charges of the year, amounting in all to £86,796,375. If, therefore, an addition to those taxes had been provided at the rate of one per cent., established in 1792, it would have amounted to no less than £867,963.

It is now, we believe, generally well known, that by the advice, and at the instance, of Mr. Pitt, recourse was had on this occasion to a plan which has in some respects a very close resemblance to that of Sir Robert Walpole in the year 1717. In both cases all the antecedent sinking funds which had been specially appropriated to redeem particular debts were consolidated, and their duration was on both occasions prolonged until the whole funded debt which then existed should be redeemed: not only these parts of it for which they had been specially provided, but also all those parts for which either no provision had been made, or where, as was the case with respect to the debt on the income tax, the intended provision had been repealed. So far the agreement extends between the two plans; but in another respect there is this very important difference, that in the former case not only the taxes, till then granted for a limited time, were continued until the whole debt should be repaid, but also other additions were made to the means to be employed for redeeming the debt, in full proportion to those parts of it on account of which no previous appropriation for that purpose had been made. But, in the second instance, no other provision was made for redeeming the additional charges on the united funds than by providing that they should continue until the whole debt should be redeemed.

Without presuming to know the motives to the plan adopted in 1802, and respecting which we have always regretted that it was not found convenient to follow Sir Robert Walpole's example more closely, we may yet be permitted to conjecture that the necessity which was felt of allotting as large a proportion as possible of the taxes imposed in that year to an additional provision for the peace establishment, induced the government of that day to depart from the established rules of the funding system. Some also might expect that very soon another awful contest with a powerful and inveterate enemy would call for more expensive exertions; and therefore, on the whole, might think it better to protract the redemption of the existing debt than to diminish the means of providing for loans which might soon be wanted.

We have already given an opinion of the plan of redemption which was introduced by lord Henry Petty in 1807. We may add another

remark respecting it, which is connected with the system of war taxes that had been previously adopted. There is considerable danger of ultimate inconvenience when debt is charged on any taxes of such a nature, that either they cannot properly be made permanent, or that if made permanent they may cease to be sufficiently productive. The repeal of the income tax, on the former occasion, had been a measure of obvious propriety; but that repeal created the necessity of levying new taxes to a great amount instead of it, and also of contriving an expedient to prevent a much greater amount of them. Probably the great inconvenience which was felt on that occasion might be a principal motive for adopting a different principle from that which was acted upon in 1798, when afterwards a very great addition to the revenue was made by war taxes in 1803. In the former case the extraordinary revenue was originally levied for the twofold purposes of increasing the present means, and providing a basis for borrowing and redeeming to the extent in which the present means might be deficient; but the war taxes of 1803 were provided for the single purpose of increasing the revenue so long only as the increase of expense should continue. Such taxes might very properly be adopted for this single purpose as would be altogether unfit for appropriation in a funding system of any kind. In the year 1807, therefore, there was not only an innovation against a salutary limitation; but if the new system had been followed till now, accompanied by such an expense as has been actually incurred, there would have been a necessity, not only of laying on very heavy taxes to support the supplementary part of it during the war, but also of substituting others to a considerable amount, on the return of peace, in lieu of a part of the war taxes themselves. Only £21,000,000 were borrowed according to the regulations of that plan, which would have been redeemed in fourteen years if an adequate profit could be made of the money taken for that purpose from the revenue previously destined to support the contemporary expense of the war. So much as by this measure that revenue has been annually diminished, so much more must have been annually borrowed; wherefore, when the debt contracted in 1807 shall have been redeemed, an equal sum will have been, on that account, added to the unredeemed debt, together with all expenses of negotiating the loan, and all charges of its redemption. In 1809 political circumstances, which need not now be explained, appear to have induced Mr. Perceval to have recourse once more to the war taxes as a basis for funding, rather than impose additional taxes, to be appropriated for the new debt which was then to be created. He, in fact, adopted the form of the sinking fund of 1792, but even more widely departed from its principle than lord Henry Petty had done; for in this case, no additional revenue having been created to meet the charges, all that is annually paid on account of that loan must be annually borrowed, and the debt will increase by compound interest so long as further loans may be required.

The next changes in the mechanism, rather

than the principle of the sinking fund, were introduced by Mr. Vansittart. We have already reviewed his plan in our article *FUNDS*, although with more brevity perhaps than was suitable to its importance; but our additional space must be devoted to the recent observations of lord Grenville on the entire subject.

His lordship's Essay on the Supposed Advantages of a Sinking Fund is confessedly an incomplete work; 'the bare and unshadowed outline' of the view which he had taken of the subject: and the whole community, but especially ministers and the legislature, must regret that the declining health of the accomplished and experienced writer has prevented the completion (as we understand him) of the second part. An analysis of what he has contributed, however, to the further consideration and adjustment of this great question, cannot fail to be interesting to all who have looked into it. While we cannot, from what has yet appeared of them, adopt the new convictions of the writer, additional attention is perhaps to be given to them for the circumstance of his original personal connexion with the establishment of the sinking fund, and his known admiration (still retained) of Mr. Pitt.

His lordship avows (Introduction, p. 2) 'a total change of sentiment' on this subject and thus supplies the three 'general principles' on which it is founded. 'These are, 1st,' he says, 'the entire dependence of every sinking fund on an actually existing surplus of revenue: 2dly, the consequent inutility of all borrowed sinking funds: and, 3dly, the no less evident impossibility of deriving benefit from a sinking fund operating in times of war, or of otherwise deficient revenue.'

i. In discussing the first of these principles he observes, 'Under no circumstances can any sinking fund be productive of real benefit, except where the ordinary income of the state has been carried to an amount permanently exceeding its current expenditure. To the neglect of this fundamental truth, a very large proportion of the errors which have prevailed in this branch of financial policy, is, as I think, mainly to be ascribed. Without such an exceeding, firmly established and invariably applied, a sinking fund may indeed exist in name, but it can have no solid operation. Even when the revenue of a state is most deficient, some portions of it may, as we know, both from our past and present experience, be nominally appropriated to the purposes of a sinking fund: but, by such appropriations, the public debts are in no degree diminished. The veriest prodigal may annually discharge a part of what he owes; but if, on the whole, he expends within the year much more than he receives, he will find, at its close, his encumbrances not lessened, but considerably increased. To reduce debt is the only object of a sinking fund. To the efficacy, therefore, and consequently to the wisdom of such an institution, two conditions are indispensable: 1st, the continued existence of the surplus from which it is to be supplied; and, 2dly, the uninterrupted appropriation of that surplus to the reduction of debt. The very name of a sinking fund implies the recurrence of fixed payments at regular and stated periods: the

casual application of occasional resources is a notion quite distinct from that of such a fund.

ii. He now passes to 'the inutility of borrowed sinking funds.' 'This first principle,' he continues, 'simple and obvious as it is, dispels at once the greatest of all the misconceptions by which this subject has been but too long obscured. It proves beyond all power of dispute, what I do not hesitate to term the utter worthlessness, the total and hopeless inutility, of a borrowed sinking fund. A nation may often find it useful, sometimes absolutely necessary, to eke out a deficient revenue by loans raised for its current service. But to resort to any such expedient in the establishment or support of a sinking fund, created for the reduction of debt, is a policy self-contradictory, and for the most part deeply injurious to its own purposes.

'There is indeed one well-known case in which the repayment of debt from borrowed money is advantageous to the debtor. A general fall in the rate of interest may enable him to compel his creditor, if such be the nature of their contract, either to consent to a similar reduction in his own case, or to accept of the repayment of his capital, to be effected by money borrowed elsewhere at a cheaper rate. This course, we know, has often been successfully followed by our own legislature. But such a measure has nothing in common with that which we are here considering. It differs completely, both in principle and in effect, from the application of a borrowed sinking fund, to purchase stock at its market-price. In the first of these two cases it is an evident benefit to the community to release itself from a more burdensome contract by money borrowed on terms of less disadvantage. But to the second no such reasoning applies. Can it be profitable to any man to buy up in the open market his own engagements, with money raised at the same moment, and in the same market, by a corresponding issue of similar securities? Would not the mere fact of his resorting to such an operation be more likely to injure than to improve his credit, if for no other reason, at least from the total want which it would imply of all judgment and intelligence in the conduct of his affairs? The exchange of two equal parcels of the same commodity, two yards of the same cloth, or two ounces of the same ingot, would at best be a mere loss of time and trouble. But the similar operation which takes place, when debt is redeemed by a fresh creation of debt, is much worse than nugatory: it is almost always prejudicial to the debtor. And this is most especially the case with respect to the pecuniary transactions of the state. The extent and urgency of the public necessities operate in these dealings strongly against the government. A considerable profit must accrue to the contractor, by the intervention of whose capital these large exchanges are effected. And, when the loans wanted for other public services are on this account augmented, the whole must be raised on terms of proportionally increased disadvantage. 'I am well aware how entirely this unqualified condemnation of all borrowed sinking funds is opposed to the practice, which has now for so long a course of years been followed by our

own country, and imitated by so many others. But I cannot with truth profess, even on that account, any distrust of the judgment which I have here ventured so confidently to express. It is sanctioned, if I do not greatly deceive myself, by a very general change in the public opinion on this point. Here, as in almost every other branch of political science, a better philosophy has in these later days established far sounder principles, both of enquiry and of judgment. Nor is it at all surprising that the progress of knowledge, in all these cases, should have so much outrun its practical application. Great changes in government and legislation are scarcely ever expedient until there has arisen in the community, not merely a speculative preference of the better course, but an active and growing desire for its adoption. And such a sentiment the public discussions now to be expected on this question, are, I trust, well calculated to produce. If, therefore, even in the present year (1827) money has again been borrowed by our government for upholding a deficient sinking fund, we may not the less reasonably hope that this will, at least in England, be the last instance ever to be exhibited of such a policy. It was, in this case, suggested only as a temporary expedient which might give room for the promised revision of the whole system; and, on the result of that enquiry, who will now propose that we should again recur to schemes of borrowed sinking funds? To reduce debt by borrowing to the same amount on terms of equal or greater disadvantage, is a manifest fiction in finance;—a fiction in that branch of government in which, above all others, fiction is most to be condemned. Its mischief is nothing less than this; it disguises from the country, and in some degree from the government, and from parliament itself, the real state of some of our most important interests; throwing over them a false color of progressive improvement in the very moments when the public debt is most rapidly increasing, and when the public revenue has become most unequal to its charge. That the British parliament should at any time have lent itself, and under whatever misconception, to a measure capable of producing these groundless impressions, all men, I think, must now regret; and who more than those who once participated in that delusion? But when, at last, the fallacy has ceased to deceive ourselves, it would ill become us to impose it upon others. Never again may any just legislature, or any enlightened community, forget that the only surplus from which a nation can, with sincerity and truth, reduce its debt, is a surplus accruing, not from loans, but from revenue.

iii. The 'inefficiency of sinking funds operating in war,' is thus briefly stated.—'If the foregoing reasonings are correct, there necessarily follows from them another most important limitation of the whole question to be now submitted to parliament. No sinking fund, it is thus evident, can truly exist, except in periods of peace; and in reference therefore to those periods only can the revival or abandonment of such a system be reasonably made matter of debate. In war, no man expects that our income will ever equal our expenditure: how then can it afford an ex-

cess of millions for the reduction of debt? Whatever surplus may have been created for that purpose in peace, a new war will at once absorb; and, in that moment, vanishes all possibility of benefit from the sinking fund. A visionary permanence may indeed even then be given to it by law; its useless forms may be continued, in vain semblance of that which once was powerful and active; but its vital spirit we cannot so preserve. When the dog-star has drunk up the stream, what provinces will its empty channel fertilise?'

In a fourth section of his first chapter; his lordship examines the opposition of these principles to our present sinking fund, and as this comprises, as he contends, 'the whole substance of the decision now expected from parliament' we shall subjoin it entire.

'It must not however be disguised that the opinions thus stated, as fundamental to this whole subject, lead at once, and by inevitable conclusion, to no modification or change, but to the total abandonment of our present sinking fund. The laws of that institution, and its whole course and operation, are, not incidentally or partially, but essentially and universally opposed to all which has here been said. Though first established in peace, and founded in an assumed surplus of revenue, it has been nominally continued through long periods of war; and, during the far greater part of the more than forty years of its existence, it has been either wholly or partially supported by loans heaped on loans. The failure of its original surplus was, in the very first moment of returning war, supplied by borrowing; and we have, ever since that time, to a greater or less amount, and in various, though sometimes not easily intelligible forms, borrowed again, with little intermission, throughout its whole continuance. This indeed was its natural and necessary course, and this the very principle of its existence. By no other means than these could its operations, such as they are prescribed by law, have been carried on during this long period of difficulty and pressure. The facts are here stated, therefore, without any the most distant purpose of censure or reproach on those under whose councils the system has been thus administered. Far otherwise. The course pursued was of the very essence of the measure to which it was applied. The avowed principles of that measure were, and still are, that the operations of the fund which it established shall be continued in war, no less than in peace, and that its consequent deficiencies shall be made good by borrowing. Take from it this support, feeble as it is, and the whole fabric crumbles into the dust.

'More than a century ago, and in the very outset of a sinking fund, its first authors adopted this expedient as an essential part of their system. And, at a later period, Dr. Price, whose suggestions so powerfully contributed to its revival, founded on the same basis all his hopes of its promised utility. Periods of public distress, he contended, would, by the depression of the funds, accelerate its operation; and he even brought himself to believe, that the rate of interest on which the state might thenceforth borrow money would thus become comparatively indifferent

'For the higher the interest,' he says, 'the sooner would such a fund pay off the principal;—the more violent the fever, the greater would be the power of the medicine to relieve it! This theory, self-evident as he imagined it, completely erroneous as it now appears, he urged with ceaseless vehemence, loading with reproach the government and legislature of his country, by whom these vain imaginations had been, after some experience of them, for nearly half a century utterly renounced. 'The sinking fund,' he says, 'was established in 1716, and began its operations in 1719.' It was at first strictly appropriated to the reduction of debt; 'and so well,' he adds, 'did our ministers then understand the nature and importance of this fund, that rather than encroach upon it they frequently borrowed money to defray the necessary expenses of government.' In other words, they frequently supported their sinking fund by borrowed surpluses, and this not in war only, but in peace. They seem to have thought it no contradiction to increase debt in the very moments of professing to reduce it. But so great an inconsistency did not long escape the sagacity of Walpole; a minister, who, in some other instances, no less than in this, seems not a little to have outrun the wisdom of his contemporaries. By measures which, notwithstanding all the clamor of his opponents, it would be very difficult to censure on any just ground of reasoning, he diverted the sinking fund from these unreal and simulated operations, to fresh exigencies of the public service as they successively arose; thereby saving to his country the imposition of new taxes, or the creation of new debt. For about forty years afterwards the same policy governed our councils, under some of our best and wisest statesmen. They judged it the most beneficial course, as it unquestionably was the most natural, to attempt the reduction of debt in those periods only when the revenue of the state exceeded its expenditure. Nor did they show much solicitude to increase the taxation of their country for the purpose of providing it with such a surplus. Their reductions of debt were principally, though not wholly, effected by the falling in of annuities, and by the diminutions successively made in the rate of interest on the public securities, by such tenders of repayment as I have above adverted to.

'But, in the days of Price, the principles of 1716 regained the public favor; and, in 1786, they were re-established by almost universal acclamation, as the main bulwark of our finance, and the unfailing sources of incalculable benefit. To this change the circumstances of the moment powerfully contributed. At the close of the American war, the loss of our long-cherished colonies, to our possession of which such false notions of advantage had been attached, the magnitude of the debt incurred in that fruitless contest, and the deficiency of the revenue created to defray its charge, had thrown over our financial prospects a cloud of distrust and apprehension, scarcely to be imagined but by those who witnessed it. Nor were wanting strong grounds for these impressions, exaggerated as they were. The real pressure of our burdens was, at that time, extremely severe: more grievous perhaps in

proportion to our wealth, than in any succeeding period of our greatest difficulties. The nation gave way therefore to an almost universal panic on this subject. The ordinary course of our finance was thought no longer adequate to our necessities: resort must be had for safety, it was said, to some new, or, at least, to some long untried expedient. Under these circumstances it was, that the project of establishing a new sinking fund, which should accumulate, uninterruptedly, at compound interest, through every vicissitude of peace and war, and which, on that assumption, would be demonstrably capable of being carried, at least in figures, to any assignable amount, captivated all imaginations. The country grasped, almost without enquiry, at promises of relief so specious and so ample; adopting, with unbounded confidence, a remedy proclaimed on no light authority to be of efficacy nothing less than omnipotent.

'It can be no reproach to any individual to have partaken largely in these feelings;—no reproach, I trust, to any public man to have cooperated with earnestness and zeal, both in preparing and in supporting a measure so consonant to the wishes of his country. And last of all can censure be attached on this account to that able and excellent statesman, who framed and carried through the act of 1786. Allowing for the impressions at that time so generally prevalent, there is, on the contrary, much of his conduct on that occasion, for which he is justly entitled to the highest praise. With an ardent and generous spirit, devoting all its energies to the national prosperity, he risked, and in no small degree surrendered, his highly valued popularity to the necessity of the large additional taxation which that measure compelled him to establish and to maintain. This was no light sacrifice, nor did he feel it such. But he anticipated in return, with unspeakable delight, the full tide of wealth which, in some distant but auspicious moment, the results of these disinterested exertions were to pour in upon his country. What he so ardently wished, he willingly believed. His persuasion of the great advantages of a sinking fund to be continued in war, and to be upheld by borrowing in all periods of deficiency, was therefore deeply rooted, not in his judgment only, but also in his feelings. To these opinions he clung with unvaried fondness; and his provisions for giving effect to them, although, on more than one occasion, widely departed from by his successors, still form, even in the present moment, the leading features of the system, in so far as it can still be said to exist at all.

'Yet shall we now, in deference to his great authority, seek to revive this nearly extinguished project, or to re-construct on the same foundations any similar institutions? If we have learnt, from the improved knowledge of the present age, that this structure, which he believed to be a main tower of our strength, rests on a basis unequal even to its own support, shall we not act as he would himself have acted under a similar conviction? Shall we not labor to devise some other less objectionable plan, under which his purpose may be executed? or, if this be

found impracticable, shall we not rather abandon the whole design, than adhere to hopes and projects which we now perceive to be, in their very essence, self-contradictory, and therefore manifestly delusive?"

On a subject that involves many present sacrifices and much of the future prosperity and comfort of the community, the reader now has a summary of the most able opinions before him. If, in the further discussion of it in parliament, any thing new in principle, or important in its practical operations should arise, we shall not fail to advert to it in the article *SINKING FUND*.

NATIONAL INSTITUTES, or new academy of arts and sciences of Paris. See *INSTITUTE*.

NATIVE, *adj.* & *n. s.* } Fr. *natif*, *nativité*;
NATIVITY, *n. s.* } Ital. Port. and Span.
nativo; Lat. *nativus*. Natural, produced by nature, or at birth; belonging to, or by, birth; original: as a substantive, one born in any place; inhabitant; offspring: nativity is, birth; hence time or place of birth; act of being born.

Thy birth and thy nativity is of Canaan. *Ezek.*
She more sweet than any bird on bough
Would oftentimes amongst them bear a part,
And strive to pass, as she could well enough,
Their native musick by her skilful art. *Spenser.*
If these men have defeated the law, and outrun
native punishment; though they can outstrip men,
they have no wings to fly from God. *Shakespeare.*

The' accusation,
All cause unborn, could never be the native
Of our so frank donation. *Id. Coriolanus.*
My husband, and my children both,
And you the calenders of their nativity,
Go to a gossip's feast. *Id. Comedy of Errors.*
They say there is divinity in odd numbers, either
in nativity, chance, or death. *Shakespeare.*
Make no extirpation of the natives, under pretence
of planting religion; God surely will no way be
pleased with such sacrifices.

Bacon's Advice to Villiers.
Concluding ever with a thanksgiving for the
nativity of our Saviour, in whose birth the births of all
are only blessed. *Bacon.*

This doctrine doth not enter by the ear,
But of itself is native in the breast. *Davies.*
But ours is a privilege ancient and native,
Hangs not on an ordinance, or power legislative;
And first, 'tis to speak whatever we please. *Denham.*

Have I now seen death? is this the way
I must return to native dust? O sight
Of terror, foul, and ugly to behold. *Milton.*

These, in their dark nativity, the deep
Shall yield us, pregnant with infernal flame. *Id.*
Fully, the humble mushroom scarcely known,
The lowly naive of a country town. *Dryden's Juvenal.*

They looked upon those as the true days of their
nativity, wherein they were freed from the pains and
sorrows of a troublesome world. *Nelson.*

There stood a monument to Tacitus the historian,
to the emperors Tacitus and Florianus, natives of the
place. *Addison.*

Our natives have a fuller habit, squarer, and more
extended chests, than the people that be beyond us
to the south. *Blackmore.*

The members, retired to their homes, reassume the
native sedateness of their temper. *Swift.*

Conversation is a traffic; and, if you enter into it
without some stock of knowledge, to balance the ac-

count perpetually betwixt you—the trade drops at
once, and this is the reason, however it may be
boasted to the contrary, why travellers have so little
(especially good) conversation with natives—owing
to their suspicion, or perhaps conviction, that there
is nothing to be extracted from the conversation of
young itinerants worth the trouble of their bad lan-
guage, or the interruption of their visits. *Sterne.*

NATIVITY is also used for natal-day, the day
of a person's birth; in speaking of the saints; as
the nativity of St. John the Baptist, &c. But
when we say the nativity, it is understood of that
of Jesus Christ, or the feast of Christmas.

NATIVITY, in astrology, the theme or figure of
the heavens, and particularly of the twelve houses,
at the moment when a person was born; called
also the horoscope. Casting the queen's nati-
vity, or by calculation seeking to know how long
the queen should live, &c., was made felony, an.
23 Eliz. c. 2.

NATIVO HABENDO, in law, a writ directed to
the sheriff, for a lord who claimed inheritance in
any villain, when a villain was run away from
him, for the apprehending and restoring him to
the lord.

NATOLIA, the modern name of the Lesser
Asia, the most westerly part of Turkey in Asia,
and consisting of a large peninsula, which extends
from the Euphrates as far as the Archipelago,
the sea of Marmora, the straits of Gallipoli and
of Constantinople, which separate it from Europe
on the west. It is bounded on the north by the
Black Sea, and on the south by the Mediterrane-
an. It is 400 miles long from east to west,
and thirty-five broad, and contains the ancient
Bithynia, Paphlagonia, Galatia, Phrygia, Mysia,
Æolia, Ionia, Lydia, Doris, Pisidia, Lycia, and
Pamphylia. The soil is fertile, and commerce
considerable. It is governed by a beglerbeg,
and several sangiaes. There are many Greek
Christians, besides Armenians and Roman Catho-
lics in it.

NATRIX, in botany, the name given by Ri-
vinus to a genus of plants nearly allied to the
anonis, and comprehended with it in one genus
by Linné, under the name of *Ononis*. See
ONONIS.

NATRIX, in zoology, the name of the common
or water snake, called also torquata, from the
ring about its neck. It is not a water-animal,
properly speaking, but a land one, which, being
able to swim very well, often takes the water to
hunt about for frogs, which are its principal food.
It grows to be much longer and larger than the
viper, and does not bring forth live young ones,
but great numbers of eggs, which it lays in dung-
hills to be hatched by the warmth of the place,
or by the heat of the sun.

NATRUM, or *NATRON*, the nitre of the an-
cients, in natural history, a genuine, pure, and
native salt, extremely different from our nitre,
and indeed from all the other native salts, it be-
ing in fact an impure natural carbonate of soda,
yet capable of a regular crystallisation. It is
found on the surface of the earth, or at very small
depths within it; and is naturally formed into
thin and flat cakes or crusts, which are of a
spongy or cavernous substance, very light and
friable, and, when pure, of a pale brownish-

white; but, as its spongy texture renders it very subject to be fouled by earth received into its pores, it is often met with of a deep dirty brown, and often reddish. All that we know of this mineral production in Egypt, in Arabia, in Persia, in India, in Thibet, in China, in Siberia, in the plains of the Caspian and Black Seas, in Asia Minor, and at Mexico, evinces that every where it occurs with the same relations, and in the same circumstances; every where it is found in the midst of sands mixed with marl and clay, and is accompanied with many other salts, of which the most constant is common salt. M. Beudant, chevalier of the Legion of Honor, and member of the Freyburg academy, visited the natron lakes of Hungary, between Debretzin and Nagy-varad, and the heaths in the neighbourhood of Kis-Maria. The whole ground about the lakes, says our author, is covered with salicornia, salsola, and many other maritime plants, which are also collected for the purpose of extracting the salt by burning. The soil in which these plants grow is a micaceous quartz sand, of a whitish or grayish color, impregnated with saline matters. At the margin of the lakes there is found a clayey substance, of a gray color, becoming black when moistened, which is always more or less mixed with gravel. It appears that it is this matter which forms the soil of the parts where the waters are more particularly collected. It effervesces with acids, even after the carbonate of soda has been removed by lixiviation, which is caused by the presence of a little carbonate of lime, in the proportion of six parts in 100. These lakes or marshes, which in general are very shallow, dry up almost entirely in summer; but, when M. Bendant visited them, they were filled with water in consequence of the rains which had taken place on the preceding days. These waters were turbid, of a grayish color, and presented a slight tinge of red, when, on settling for some time, they had deposited their mud.

Ruckert, who was for a long time employed in extracting the natron, and who had opportunities of examining the soil, asserts that the sand sometimes includes pisiform iron ore, that it is never more than four or five feet deep, and that it rests on a bed of blue clay. He informs us also that the greater number of the lakes are dried up at midsummer, and that the natron which effloresces at the surface is then collected. The efflorescence is renewed at the end of three or four days, and it may then be collected anew; so that a great quantity may be collected in the course of a summer. But there are deeper parts where the water never dries up, but contains a great quantity of carbonate of soda (fifty or sixty in 100, according to Ruckert), which crystallises during the cold nights of autumn. This saturated water is conducted to the manufactories, and reserved for the labor of winter. It appears evident that the carbonate of soda is never pure, and that in Hungary, as in all the other places where it is found, it is always mixed with muriate of soda, in greater or less quantity.

It is a difficult problem to determine the origin of this immense quantity of natron which is

daily efflorescing at the surface of the earth, and which is found everywhere in the waters which cover the plains of Hungary; the data which we possess will not permit us to say any thing with certainty on this subject, and we are limited to more or less probable conjectures, which, however, deserve a certain degree of attention, because they are deduced from facts, and rest upon no hypothesis. Ruckert was of opinion that the sub-carbonate of soda occurred already formed in the sand or clay, at a certain depth, along with the different salts with which it is mixed, and that the waters, by filtering through the mass of earth, in order to regain their level, laid hold of those substances, which they carried to the surface of the soil. But this opinion cannot be supported by any positive observation, because no pits have been dug which might confirm it, in the different places where the natron appears at the surface of the soil; and farther there is no analogy to give it countenance; for nowhere in the deposits of rock salt, whether of the more ancient or modern kind, is carbonate of soda found; and, lastly, the waters of our seas which deposit their salt upon the shores are equally destitute of any traces of it. Now we find, however, that in this latter case, natron also is formed, although in small quantity, efflorescing at the surface of the soil; and here its origin cannot be attributed to any thing else than the decomposition of the muriate of soda. We know in fact that this decomposition may take place through the agency of several means which differ from each other only in the quickness or facility with which they operate. Advantage has been taken of this in the manufacture of artificial sub-carbonate of soda, in which several methods, more or less advantageous, have been successfully employed. It is therefore also in the natural decomposition of muriate of soda, that we are led to seek the origin of the natron which occurs in such abundance in the vast plains of our continents. It is thus that M. Berthollet has explained in a manner extremely probable, the formation of this salt in the valley of the natron lakes in Egypt. This learned chemist has endeavoured to prove that it is the reciprocal action of the muriate of soda and carbonate of lime, assisted by the efflorescence, which determines the successive separation of the carbonate of soda; and which, by this means, allows the decomposition to go on ad infinitum. The inspection of the places gives every probability to this explanation; for the lakes contain a great quantity of muriate of soda, and they occur in the midst of a calcareous formation, the rocks of which project here and there through the sand which covers them.

Natron, whether native or purified, dissolves in a very small quantity of water; and this solution is, in many parts of Asia, used for washing; where it is also made into soap by mixing it with oil. Natron reduced to powder, and mixed with sand or flints, or with any other stone of which crystal is the basis, makes them readily run into glass. Gold heated red hot, and sprinkled with a small quantity of this salt, melts in the same manner; as does also iron, copper, and the regulus of antimony; which melt much more easily than they otherwise

would do. Mercury cannot be mixed with it by any art, and indeed will not amalgamate with metals if only a little of this salt be added. It is found in great abundance in many parts of Asia, where the natives sweep it up from the surface of the ground, and call it soap earth. The earliest account we have of it is in the Scriptures, where we find that the salt called nitre in those times would ferment with vinegar, and had an abstersive quality, so that it was used in baths and in washing things. Solomon compares the singing of songs with a heavy heart to the contrariety of vinegar and nitre; and Jeremiah says, that if the sinner wash himself with nitre, his sin is not cleansed off. These are properties that perfectly agree with this salt, but not at all with our saltpetre. In the store-houses at Rosetta there are two sorts, viz. the common and the 'sultanié,' a word which corresponds to the epithet royal. This latter is whiter, better crystallised, and purer than the common sort; it is consequently stronger, and when used a smaller quantity is sufficient. Its principal use is the bleaching of cloth and thread. The method pursued at Rosetta is as follows:—The skeins of thread are arranged in a large copper, set in mason-work; above them is put a layer of natron; and then a sufficient quantity of cold water is poured in to soak both the thread and the natron. The whole is left in this situation for three days, at the end of which the thread is taken out and hung upon sticks placed over the copper. When it has drained, a fire is lighted under the copper, and the water, in which the thread was soaked, with the natron, is made to boil, after having received an addition of some lime. The thread is steeped and stirred about in this hot lie, and washed in it several times, without being left there. It is immediately taken to the Nile, in which it is washed and beaten; it is then spread out to dry. When the skeins are very dry, they are again washed in the whey which runs from cheeses, and which in Arabic is called 'mesch.' This is a sort of stiffening that improves the cloth, and when the Egyptians handle a soft cloth they say that it wants 'mesch.'

NATURE, <i>n. s.</i>	} Fr. <i>nature</i> ; Teut. <i>natur</i> ; Ital., Span., Port., and Lat., <i>natura</i> . A supposed goddess and governess of the material and animal world; the world considered collectively; physical science; native state; constitution; original disposition or sensation; regular or ordinary course of things; settled habit; reality; sort; species; see the ample explanation below from Boyle: natural is, pertaining to, produced or effected by, nature, or mere nature (hence illegitimate); tender; affectionate; unaffected; not forced or far-fetched: a natural is an idiot; one by nature a fool; a gift of nature; and, in an obsolete sense, a native or original inhabitant of a place: naturalist, a student of natural history: naturalisation, the art of investing aliens with the privileges of native or natural subjects: the other derivatives
NATURAL, <i>adj.</i> & <i>n. s.</i>	
NATURALIST, <i>n. s.</i>	
NATURALISATION,	
NATURALISE, <i>v. a.</i>	
NATURALLY, <i>adv.</i>	
NATURALNESS, <i>n. s.</i>	
NATURITY.	

follow these senses: naturity we only find used by Browne for, state of being produced by nature.

Our sovereign good is desired *naturally*; God, the author of that *natural* desire, hath appointed *natural* means whereby to fulfil it; but man, having utterly disabled his *nature* unto these means, hath had other revealed, and hath received from heaven a law to teach him, how that which is desired *naturally*, must now supernaturally be attained. *Hooker.*

Thou, *Nature*, art my godd^{ess}; to thy law
My services are bound.

Shakspeare. King Lear.

We're not ourselves,

When *nature*, being oppress, commands the mind
To suffer with the body. *Id.*

A credulous father, and a brother noble,
Whose *nature* is so far from doing harms,
That he suspects none; on whose foolish honesty
My practices ride easy. *Id.*

My end

Was wrought by *nature*, not by vile offence.

Shakspeare.

To leave his wife, to leave his babes,
He wants the *natural* touch. *Id. Macbeth.*
That a monster should be such a *natural*.

Shakspeare.

That part

Was aptly fitted, and *naturally* performed. *Id.*
Oppression, in many places, wears the robes of
justice, which domineering over the *naturals* may not
spare strangers, and strangers will not endure it.

Raleigh's Essays.

The Spartans were nice in point of *naturalization*;
whereby, while they kept their compass, they stood
firm, but when they did spread they became a wind-
fall. *Bacon.*

When it was said to Anaxagoras, the Athenians
have condemned you to die; he said, and *nature* them.

Id.

The lords informed the king, that the Irish might
not be *naturalized* without damage to themselves or
the crown. *Davies.*

These things so in my song, I *naturally* may
show;

Now as the mountain high; then as the valley low;
Here fruitful as the mead; there, as the heath be
bare;

Then, as the gloomy wood, I may be rough, tho'
rare. *Drayton.*

The wretcher are the contemners of all helps;
such as, presuming on their own *naturals*, deride di-
ligence, and mock at terms when they understand
not things. *Ben Jonson.*

I will now deliver a few of the properest and *naturallest*
considerations that belong to this piece.

Watton.

To consider them in their pure *naturals*, the earl's
intellectual faculties were his stronger part, and the
duke, his practical. *Id.*

The inhabitants and *naturals* of the place should
be in a state of freedom.

Abbot's Description of the World.

Wheresoever mere *nature* is, she is still impro-
vident of future good, sensible of present evil, in-
constant of good purposes. *Sp. Hall.*

Although life be *naturally* sweet, yet a little dis-
content makes us weary. *Id.*

Let the postilion *nature* mount, and let

The coachman art be set. *Cowley.*

Why leaped the hills, why did the mountains
shake,

What ailed them their fixed *natur*es to forsake. *Id.*

When the Apostle says, we were by *nature* children of wrath, he means not that which is the usual signification of *nature*, for then it were not their fault, but the fault of him that made them such; but it means an abiding and vile habit, a wicked and lasting custom.

Jer. Taylor.

I deny not but all persons *naturally* are so that they cannot arrive at Heaven, but unless some other principle be put into them, or some great grace done for them, must for ever stand separate from seeing the face of God.

Id.

I call that *natural* religion which men might know, and should be obliged unto, by the mere principles of reason, improved by consideration and experience, without the help of revelation.

Wilkins.

The *nature* of brutes, besides what is common to them with plants, doth consist in having such faculties, whereby they are capable of apprehending external objects, and of receiving pain or pleasure from them.

Id.

Between the animal and rational province, some animals have a dark resemblance of the influxes of reason: so between the corporeal and intellectual world there is man participating much of both *natures*.

Hale's Origin of Mankind.

If their dam may be judge, the young apes are the most beautiful things in *nature*.

Glanville.

This cannot be allowed except we impute that unto the first cause which we impose not on the second; or what we deny unto *nature* we impute unto *naturity*.

Browne.

Admirable artifice! wherewith Galen, though a mere *naturalist*, was so taken, that he could not but adjudge the honor of a hymn to the wise Creator.

More.

Profit or pleasure there is none in swearing, nor any thing in men's *natural* tempers to incite them to it. For, though some men pour out oaths so freely as if they came *naturally* from them, yet surely no man is born of a swearing constitution.

Tillotson.

This would turn the vein of that we call *natural*, to that of legal propagation; which has ever been encouraged as the other has been disfavoured by all institutions.

Temple.

Encouragement may be given to any merchants that shall come over and turn a certain stock of their own, as *naturalization*, and freedom from customs the two first years.

Id.

The thoughts are to be measured only by their propriety, that is, as they flow more or less *naturally* from the persons and occasions.

Dryden.

He must understand what is contained in the temperament of the eyes, in the *naturalness* of the eyebrows.

Id.

A dispute of this *nature* caused mischief in abundance betwixt a king and an archbishop.

Id.

Such unnatural connexions become, by custom, as *natural* to the mind as sun and light: fire and warmth go together, and so seem to carry with them as *natural* an evidence as self-evident truths themselves.

Locke.

Take the thoughts of one out of that narrow compass he has been all his life confined to, you will find him no more capable of reasoning than a perfect *natural*.

Id.

All men are *naturally* in a state of perfect freedom to order their actions, and dispose of their possessions and persons, as they think fit, within the bounds of the law of *nature*.

Id.

This answers fitly and *naturally* to the place of the abyss before the deluge, inclosed within the earth.

Burnet.

He rises fresh to his hammer and anvil; custom has *naturalized* his labour to him.

South.

If sense be not certain, in the reports it makes of things to the mind, there can be *naturally* no such thing as certainty of knowledge.

Id.

The *naturalness* of a desire is the cause that the satisfaction of it is pleasure, and pleasure importunes the will; and that which importunes the will puts a difficulty on the will refusing or forbearing it.

Id.

What can be more *natural* than the circumstances in the behaviour of those women who had lost their husbands on this fatal day?

Addison.

It is not credible that the *naturalist* could be deceived in his account of a place that lay in the neighbourhood of Rome.

Id.

Only *nature* can please those tastes which are unprejudiced and refined.

Id.

These, with the pride of dogmatizing schools, imposed on *nature* arbitrary rules;

Forced her their vain inventions to obey,

And move as learned frenzy traced the way.

Blackmore.

To be ambitious of true honour, of the true glory and perfection of our *natures*, is the very principle and incentive of virtue.

Sherlock.

Simple *nature* to his hope has given,

Beyond the cloud-topped hill an humbler heaven.

Pope.

Nature and Homer were, he found, the same.

Id.

Nature and *Nature's* laws lay hid in night,

God said, let Newton be, and all was light.

Id.

If there be any difference in *natural* parts, it should seem that the advantage lies on the side of children born from noble and wealthy parents.

Swift.

Enemies, by taking advantage of the general *naturalization* act invited over foreigners of all religions.

Id.

If solid piety, humility, and a sober sense of themselves, is much wanted in that sex, it is the plain and *natural* consequence of a vain and corrupt education.

Law.

When you have once habituated your heart to a serious performance of holy intercession, you have done a great deal to render it incapable of spite and envy, and to make it *naturally* delight in the happiness of mankind.

Id.

Man's rich with little, were his judgment true,

Nature is frugal and her wants are few.

Young.

The works, whether of poets, painters, moralists, or historians, which are built upon general *nature*, live for ever; while those which depend for their existence on particular customs and habits, a partial view of *nature*, or the fluctuation of fashion, can only be coeval with that which first raised them from obscurity.

Reynolds.

The levellers only change and pervert the *natural* order of things; they load the edifice of society, by setting up in the air what the solidity of the structure requires to be on the ground.

Burke.

But *nature* works in every breast

With force not easily suppressed;

And Dick felt some desires,

That, after many an effort vain,

Instructed him at length to gain

A pass between his wires.

Cowper.

Nature is but a name for an effect

Whose cause is God.

Id.

NATURE. Of this word which occurs so frequently, with significations so various and so difficultly defined, Boyle has given the following explication:—*Nature* is sometimes used for the

author of nature, *Natura naturans*; as, Nature has made man partly corporeal and partly immaterial: for Nature, in this sense, may be used the word Creator. Nature sometimes means that on whose account a thing is what it is, and is called, as when we define the nature of an angle: for nature, in this sense, may be used for essence, or quality. Nature sometimes means what belongs to a living creature at its nativity, or accrues to it by its birth, as when we say a man is noble by nature, or a child is naturally froward: this may be expressed by saying, the man was born so, or the thing was generated such. Nature sometimes means an internal principle of local motion, as we say the stone falls, or the flame rises, by nature: for this we may say that the motion up or down is spontaneous, or produced by its proper cause. Nature sometimes signifies the established course of things corporeal, as nature makes the night succeed the day: this may be termed established order, or settled course. Nature means sometimes the aggregate of the powers belonging to a body, especially a living one; as when physicians say that nature is strong, or nature, left to herself, will do the cure: for this may be used constitution, temperament, or structure of the body. Nature is put likewise for the system of the corporeal works of God; as there is no phoenix or chimera in nature: for nature, thus applied, we may use the world, or the universe. Nature is sometimes, indeed commonly, taken for a kind of semi-deity: in this sense it is best not to use it at all. If I were to propose, continues he, a notion of nature less ambiguous than those already mentioned, and with regard to which many axioms relating to that word may be conveniently understood, I should first distinguish between the universal and the particular nature of things. Universal nature I would define to be the aggregate of the bodies that make up the world in its present state, considered as a principle, by virtue whereof they act and suffer according to the laws of motion prescribed by the Author of all things. And this makes way for the other subordinate notion, since the particular nature of an individual consists in the general nature applied to a distinct portion of the universe; or, which is the same thing, it is a particular assemblage of the mechanical properties of matter, as figure, motion. *Boyle's Free Enquiry.*

NATURAE, in heraldry, is used where animals, fruits, flowers, &c., are blazoned with the colors they naturally have, though different from the common colors of heraldry; and this is to prevent their armories being accused of falsity, when blazoned with the names of colors unknown in heraldry.

NATURAL HISTORY is a generic term, once of considerable use, of which we are required perhaps to take some notice. Strictly taken, it would comprehend the development and classification of all the divisions and productions of nature: but this is a sense in which it has been rarely applied. It has been more commonly used for a systematic description of that part of nature which is immediately connected with man and human wants: as, for the history of the natural products of the earth and atmo-

sphere, whether mineral, vegetable, or animal; and as bearing the same relation to natural philosophy as physiology does to physics. Thus taken, it has a near approach to various studies; as, for instance, those of anatomy, botany, chemistry, husbandry, zoonomy, &c.; and might correctly enough be contemplated as that peculiar genus of science of which these are only species.

Thus limited, natural history is a science both useful and entertaining: it is intimately connected with all the other sciences; and with all the arts, from the simplest and rudest to the most complicated and most elegant. We cannot well avoid becoming more or less acquainted with the manners of animals, the economy of vegetables, and the general appearance of nature. From an acquaintance with these many advantages have already accrued to man; and, from a more intimate knowledge of them, many more will doubtless be derived. The husbandman ought to know the characters of the tame animals which he employs; what advantages are to be derived from them; whether there are others that would suit his purpose better; where they are to be found; how they may be procured, and how supported; the qualities of the soil which he cultivates, and the means of managing and of improving it; the nature of the grains and grasses which he raises, and whether he might not, with advantage, substitute a different species for that in common use. Even the meanest mechanic should have a pretty accurate knowledge of many of the qualities of those natural objects with which his craft is connected. The fine arts, though usually considered as the peculiar province of imagination, depend greatly also upon natural history. Both in music and painting, the study of nature alone can ensure success; and, in the writings of the poets, images are perpetually introduced from external nature. Many of the transformations celebrated by Ovid are founded on facts in the natural history of animals and plants; and Lucretius and Virgil are very minute in describing the habits of various animals, and many species of the vegetable kingdom. As modern poets have not the same machinery of gods and goddesses, nymphs, fawns, and satyrs, which were so serviceable to the heathen poets, they are compelled to be yet more industrious in studying the scenes of Nature. By attending to this principle, Thomson, while he led the way to others, has procured for himself a distinguished place among those whose names are immortal: and Cowper, looking still more intently and intelligently 'through creation to her God,' has been not inaptly termed the modern 'poet of Nature.'

From the vicissitudes of the seasons acting upon the senses; from the presence of surrounding objects; from the necessity of deriving from them food, clothing, and shelter; natural history must have been a study of the first importance to man, and attended to from the earliest periods of society. Before the invention of letters, however, the observations and discoveries of individuals were neither likely to be communicated to those at a distance, nor recorded for the information of posterity. In a more polished state of society the case is different: and hence we find Alexander

the Great decreeing a collection of animals for the examination of Aristotle; and wild beasts, from every quarter of the globe, produced and exhibited in the amphitheatres at Rome. Yet Aristotle is almost the only ancient writer on zoology that merits attention; for even Pliny and Ælian, with this great example before their eyes, offer us nothing but crude collections, discriminated with little taste or judgment, truth and falsehood being blended in one common mass: and for many succeeding years, from various causes, all Europe is well known to have been immersed in ignorance and credulity as to the most common facts of this study.

Natural history was not one of the favorite studies of the revivers of literature; yet the scholars of that period displayed a degree of industry which may appear incredible. The voluminous labors of Gesner and Aldrovandus are instances. They are rude quarries from which most valuable materials may be dug by such as will undergo the fatigue, and possess the judgment necessary to discriminate them.

Towards the end of the seventeenth century the sciences we have adverted to began to be generally cultivated. Among our countrymen, Ray, Woodward, Collinson, and Edwards, prosecuted the study of natural history with singular success, and they have been followed in the same track by many others, scarcely inferior in industry or abilities; none of whom however are more entitled to praise than the indefatigable Pennant. But to the celebrated Linnæus is justly attributed the honor of having first formed natural history into a system: and he may hence perhaps be reckoned its greatest benefactor. Buffon, it is true, by uniting extensive knowledge, ingenuity, and elegance, has contributed, in a signal manner, to diffuse among the various ranks of society an ardent desire to obtain a more intimate acquaintance with the same study: and his attempts have been ably seconded by those of Willdenow, Pulteney, Shaw, and Smith.

Books on natural history have been very properly and extensively put, of late years, into the hands of the young. The slightest attention on the part of their authors will render such books interesting, and they cannot fail of being eminently useful. It is under this impression that in the present work we have allotted the utmost extent we have been able to a description of the various objects of this study: and have selected for our descriptions those species whose forms or habits are most striking and worthy of notice. He who studies nature with a careless eye only appears to distinguish the animal from the vegetable, and the vegetable from the mineral kingdom: he notices not the nice gradations by which these different orders of beings run, as it were, into one another; he marks only the more prominent features, and the more glaring colors: the more remarkable differences force themselves upon his observation; but he passes on too rapidly to discern, or even examine, whether these are seeming or real, whether they are divided by a firm and insuperable barrier, or connected by intermediate links; and would think it incredible that the philosopher should declare himself at a loss to give such a definition of any

one of these divisions as might absolutely exclude the others. Yet philosophers have felt this difficulty, and continue to feel it. Let us glance at their difficulties in arranging the different objects even of this lower part of the creation, and we shall see the extent and importance of the study of natural history.

When they find animals fixed to a particular spot, extremely imperfect in their powers of sensation, and displaying scarcely any instinct or sensorial power, they can hardly consider them as endowed with any principle superior in its nature to vegetative life. Again, when they observe plants unfolding to the rays of the sun their leaves or flowers, which shrink together at the fall of night; receding, as if afraid of injury from objects that approach them; and, in whatever situation the seed be sown, or the shoot planted, constantly growing in that direction in which they can best enjoy the influence of light and air; it appears at first sight almost unfair to deny this class of beings sensations, desires, and even design. The sensibility of the *mimosa*, the art of the *dionæa muscipula*, the affectionate care with which the leaves of the tamarind tree contract and wrap themselves round the tender fruit, to protect it from the nocturnal cold, are so many instances in which vegetables make an approach towards some of the most eminent characteristics of animals. The oyster and other shell fishes, and almost all zoophytes, though ranked in the animal kingdom, seem, again, to possess few of the privileges of animal life.

The analogies between animals and vegetables, which have been traced by philosophical observation, occasion other difficulties in the attempt to fix the boundary between these two kingdoms. The bodies, as well of plants as of animals, consist of fluids and solids; they have both vessels designed to contain the fluids, and glands to secrete different juices: while the blood circulates through the bodies of animals, the sap of vegetables ascends and descends, so as to produce the same effects on the vegetable, which the motion of the blood, by the force of the heart and the arteries, produces on the animal system. These are but a few of the resemblances which have been observed between the species of the animal and those of the vegetable kingdom. Almost every one of the parts common to animal bodies has been represented by one naturalist or another as matched by some correspondent part in vegetable bodies. Such analogies are sometimes plain and striking, and sometimes scarcely perceptible, or merely imaginary. They afford, however, an agreeable subject of speculation; and it cannot be denied that they increase the difficulty of ascertaining the limits by which these two departments of nature are divided. But, however numerous and strong the analogies between animals and vegetables, however difficult it may be to discern the precise line which separates the one kingdom from the other, yet the leading characteristics are sufficiently distinct. The privileges which animals enjoy above the other parts of the creation are in most instances highly conspicuous.

One of the most eminent of these is their power of *loco-motion*. Klein, with sufficient

propriety, assumes this as the great characteristic by which animals may be distinguished from the other orders of beings. It does not hold indeed in every instance, for there are some plants of a nature almost as wandering as the most migratory of the animal tribes; such as the fragaria, or strawberry, as a land-plant, and the valisneria as an aquatic; but these anomalies are not common, and vegetables may in general be regarded as destitute of loco-motion. They seem to enjoy a species of life, and display on many occasions a degree of sensibility, or something very like it; but they are fixed, each to a peculiar spot, where they spring up, expand into full growth, and at length wither and decay. Animals, without suffering any external impulse, readily move from place to place, by virtue of an inward principle, superior in its nature to vegetative life. Some enjoy this power or property in a more eminent degree than others; some are more disposed than the rest of their fellows to exert it; and some, again, possess the power in a very inferior degree, and discover but a faint inclination to avail themselves of it. We admire the rapid flight of the eagle, and the swiftness of the horse and the greyhound; we observe many of the swiftest and most vigorous animals sink into lethargic indolence, till roused by some peculiarly powerful motive; the snail, the sloth, but more particularly the oyster, the limpet, and other shell-fishes, both in their powers of self-motion, and in their dispositions to exert them, rise but very little above those vegetables which are more remarkable for sensibility.

Sensation is usually regarded as another characteristic of animals: it is intimately connected with their powers of loco-motion, and even necessary to prompt them to the exertion of those powers. Did we not feel, we should never be roused to action. Yet several vegetables, among which the mimosa or sensitive-plant is one of the most remarkable instances, appear to possess something like sensibility. It is scarcely possible to determine upon what principle in their nature the emotions which these kinds of plants display on certain occasions may depend. Is it owing to something peculiar in the structure of their parts, or in the matter of which they are formed? or are they actually informed by a sentient principle? This is perhaps one of those intricate cases in which truth is removed from our view, even beyond the reach of experiment. Yet, if we may fairly venture on this occasion to reason from general analogy, we must conclude that these plants are equally destitute of a conscious sentient principle with the other kind of the vegetable kingdom. The structure of their parts is not that of an animal, but of a vegetable body; they are, like other vegetables, fixed to a particular spot: in all their other characters too they resemble not animals but vegetables; and even those phenomena in which it may be imagined that they display indications of sensibility are of such a nature, that no decisive inference can be deduced from them. Animals are endowed with various organs and powers of sensation, which serve to make them acquainted with the different properties of surrounding objects. Most of them see, hear, taste, touch, and

smell. They all possess these, or a part of these powers of sensation, in an unequivocal manner. The senses are not indeed equally perfect in all; and some species appear to enjoy only a part of them. In some animals the sight, the hearing, the touch, the taste, or the smell, is remarkably dull; and in others exquisitely delicate and acute. The eye of the mole receives but a faint glimmer of light; the ear of the ass is insensible to the harmony or melody of sounds; the sight of the ounce, on the contrary, is wonderfully acute; and the touch of the spider exquisitely delicate. Possibly the same feelings may not communicate to all animals the same images and sentiments: what is sweet to one animal may perhaps be bitter to another; what is beautiful to one species may appear to another ugly or disagreeable; an odor which to this animal is sweet-smelling may be a stench in the nostrils of that. All sensations, however, communicate to the animal some useful knowledge of the qualities of surrounding objects; some knowledge suitable to his character and his circumstances.

But sensibility requires the beings to whom it belongs to possess some superior powers. Organs of sensation serve merely to carry on an intercourse between some internal principle in the animal possessed of them, and external nature. This internal principle exalts animals highly above every other arrangement of beings; and is, besides, so much diversified in different kinds and species of animals, and in different individuals, as to create the most remarkable distinctions among them. Perception must be common to all animals; without it organs of sensation would be useless. *Perception* is indeed scarcely any thing else but another word for sensibility. *Memory* appears to be no less necessary to animals than perception; to receive impressions from external nature would be but a trifling privilege, were those impressions of so evanescent a nature as to be effaced the next moment after they were communicated. Animals, without this power, could perform no voluntary functions. To render them equal to such functions, it seems indispensably necessary that they be able to connect the past with the present. Accordingly, every animal whose manners and economy have been observed with any considerable degree of attention appears to be more or less capable of remembrance. The docility of the domestic animals is a sufficient proof that they are endowed with this faculty: the cunning, and even the ferocity of beasts of prey, prove the same fact with respect to themselves: the complex and wonderful economy of the bee, the beaver, the crow, the birds of passage in general, and various others of the inferior animals, whose manners have been often contemplated with admiration, shows that their retentive powers are remarkably tenacious of the impressions made upon them. The human species possess the faculty of memory in a very eminent degree; and the arts by which they have learned to improve and assist it render it a more important feature in their character, than in that of any of the other species in the animal creation.

But we cannot conceive a being to possess the powers of perception and memory, and yet not

be conscious of its existence: this *consciousness* must therefore be allowed to be another of the internal powers of animals. With the powers of perception, remembrance, and consciousness, animals are observed to be also endowed with certain affections, and to be susceptible of certain emotions. Joy, grief, love, hatred, gratitude, resentment, fear, courage, with a number of other similar principles, reside in the human breast, and are to man the great springs of action. The inferior animals appear to be susceptible of the same emotions, and capable of many both of the selfish and the social affections which distinguish the human character. But neither do all the species or individuals of any one kind possess all these affections and passions in the very same degree; nor are the dispositions and affections of the different kinds in any respect the same. One kind or species is ferocious and cunning; in another courage appears united with generosity: one is remarkable for sloth and inactivity; another is restlessly active: one is grateful, submissive, and affectionate; another of a froward, untameable spirit, insensible to kindness, and incapable of attachment: one is docile and intelligent; another dull and stupid. Besides these emotions, affections, and passions of a more generous and refined nature, animals are likewise subject to certain appetites and feelings of a different sort: such are the appetites for food, and for the procreation of the species; the sense of bodily pleasure and of bodily pain. These are more uniformly common to animals in general than the former: to receive the requisite supplies of food, and to reproduce the species, are properties still more essential to the animal character than the more refined sentiments and affections.

The internal qualities which have been enumerated are generally allowed to be common to all the more perfect animals, although diversified in different species and different individuals. But even these,—the power of self-motion, organs of sensation, perception, consciousness, memory, appetites, affections, and passions,—are not sufficient to complete the character: they need some other powers to call forth, to regulate, and to restrain their energy; something on which they may act, and which may connect them, as it were, with one another. Animals are actually endowed with other internal powers than those yet mentioned: they compare objects presented to them; they judge between the true and false; between nearness and distance: they distinguish between beauty and deformity; they can discern order from confusion. Their other powers furnish, as it were, the materials; these combine and separate, and arrange them. The operation of these several faculties is succeeded by the determination of the will; a power which is necessary to complete the character of a thinking, animated being. No circumstances in the situation of animals, no particulars in their form, or bodily powers, or mental dispositions, give rise to more remarkable disparities among them, than those which depend on their powers of comparing, and of judging between different objects. These hold so important a rank among the other powers, that, wherever they are in the smallest

degree diversified, they produce the most remarkable diversities of character. By his superiority in these respects man is eminently distinguished above the rest of the animal kingdom; so eminently, indeed, that he is the lord of all other beings, and the rest are his slaves, or his unequal enemies. The same law prevails throughout all animated nature. The more perfect the powers of comparing and judging in any particular order or kind, so much the more powerful, respectable, and happy is that division. Superior address often renders a smaller and more timid animal an overmatch for one that is larger, stronger, and even more ferocious.

But the inferior animals are so remarkably deficient in the reasoning and thinking powers, when compared with man, that human pride has been tempted to deny them entirely the possession of such powers. Though we find them such useful assistants, and at times such formidable enemies, we would willingly degrade them to a rank in the order of creation still lower than that which nature has assigned them. We delight to represent them as destitute of judgment, and guided only by what we call instinct. We observe that even the most sagacious among them are incapable of that variety of minute distinctions which our reasoning faculties enable us to make: they cannot take so full a review of the past, nor look forward with so penetrating an eye towards the future: they do not accumulate observation upon observation, or add to the experience of one generation that of another: their manners do not vary, nor their customs fluctuate like ours: their arts remain always the same, and are not liable either to degenerate or to be improved: the crow always builds its nest in the same way; every hen treats her young with the same measure of affection; even the dog, the horse, and the sagacious elephant, seem to act rather by association than with design. From such hasty observations as these it was inferred by Descartes that brutes are directed in their actions by some mysterious influence, which impels them to employ their powers mechanically and unintentionally in performing actions beneficial to themselves, and suitable to their nature and circumstances.

There are opposite opinions, however, that have been carried to as wide an extreme. One of the greatest philosophers among the ancients, Pythagoras, was so fully convinced that the brutes possess the same powers of intelligence as men, that he represented them to his disciples as animated by souls which had previously acted a part in human bodies, and, for that reason, enjoined them to treat those their humbler brethren with gentleness and humanity, and to beware of ever shedding their blood. The same opinion still prevails through the east: and has such an influence on the manners of the Gentoos, that they will perish of hunger rather than shed the blood or eat the flesh of an animal. This opinion, as well as that which degrades the brutes to the low character of pieces of mere mechanism, have equally originated from prejudice or careless observation. Since natural history has begun to be more diligently cultivated innumerable observations made on the manners and

economy of the inferior animals, prove that, if they be guided by instinct, that instinct is by no means a mechanical principle of action, but, in its nature and susceptibility of improvement, approaching nearly, in many cases, to the character of human reason. The manners of no one species among the brutes are uniformly the same in all the individuals belonging to it. Even in performing those actions in which they are said to be guided by unvarying instinct, different individuals display different modes of conduct. It is probable that, if we were to examine their manners and economy with the same minute and careful attention with which we observe the conduct of our own species, we should find those of their actions which we call instinctive much more diversified than we imagine: the general resemblance,—the family likeness, would no doubt still hold; but we should surely discover the character of the individual to be distinctly marked, as well as that of the species. The laws of analogical reasoning do not justify the idea that the brutes act, on any occasion, absolutely without design. In many instances they undeniably act with design: the dog obeys his master; he traces his footsteps in order to overtake him: he even attempts to make returns of gratitude for the kindness with which he is treated. Others of the inferior animals behave in a similar manner. It seems therefore more probable that such animals, even in those instances in which we cannot distinguish the motives which actuate them, or the causes by which they are instigated, act not altogether without design, and extend their views, if not a great way, yet at least a certain length forward,—than that they can be, upon any occasion, influenced by anomalous feeling, or over-ruled by some mysterious influence, under which they are nothing but insensible instruments.

The facts from which this induction is drawn have of late forced themselves on observation, in such a manner as to give rise to a very false theory of a kind still different: in which it has been thought better to degrade mankind nearer to the same level with the brutes, than to elevate the brutes to the rank usually assigned to mankind. The human mind has been represented as a bundle of instincts, only a little larger than those bundles of the same materials which have been bestowed on the brute creation. Observing that the inferior animals seem, on many occasions, to act upon the same principles with mankind, and unwilling to allow that the former can ever act with design; the author of this theory has contrived to explain the phenomena by denying design to his own species. But we will not tamely surrender our rights: we will share them with other animals, rather than be entirely deprived of them. We are conscious of comparing ideas and of forming designs. If these operations be called instincts,—be it so; this is not to advance a new doctrine, but to propose the use of it in a new sense. Let mankind still be allowed to reason, and to act with design, even though it must be granted that the brutes too reason, but not so skilfully, and form designs, but designs much less extensive than those of mankind.

We not only accomplish such purposes as we

propose to ourselves, by the use of such means as prudence suggests; but we are also subject to laws, by the influence of which our conduct, whatever it be, naturally produces certain effects on our character and circumstances, which we neither previously desired nor foresaw. The drunkard, for instance, sits down only to swallow a liquor of which he is fond, or to join in that noisy mirth which reigns among his fellows; but he insensibly acquires a habit which he did not think of, and by indulging in that habit unintentionally produces very unhappy changes in his health and circumstances. The benevolent man, in the same manner, when he interferes to relieve his brother in distress, does not probably attend to all the effects which his conduct in this instance is likely to produce, either to himself, or to the person whom he relieves: and of human actions in general it may be observed, that their consequences always extend much farther than the design or foresight of the agent. Beings of superior intelligence might regard mankind as incapable of design, with just as much reason as we have to deny the brutes any guiding principle superior to blind and simple instinct. We, however, are conscious of design; though our designs are commonly narrow, and our views limited: why, then, consign the inferior animals, in every instance, to the guidance of an unmeaning impulse? Were it proper to enter more minutely at present into a discussion of this point, it might be easy to prove, by an induction of particulars, that brutes actually compare ideas and deduce inferences; and when we consider their docility, and mark the variety of their manners, it appears almost absurd to deny that they form designs, and look backward on the past, and forward towards the future, as well as ourselves. We may conclude then, with respect to inferior animals, that they possess, in general, the powers of perception, memory, consciousness; with various affections, passions, and internal feelings, and even, though perhaps in a meaner degree, those powers of comparing and judging which are necessary to enable an animated being to form designs, and to direct its actions to certain ends. Their prospects towards the future are evidently very confined: they cannot review the past with such a steady eye as man; imagination is not with them so vigorous and active as with us; it is limited within a much narrower range. But still they are not absolutely confined to present sensations; they connect some part of the past and of the future with the present. When we contemplate their manners, we behold not social intercourse regulated among them by the same forms as among men: their characters and circumstances differ so considerably from ours, that though the great outline of right and wrong may, wherever perceived, remain the same to them as to us; yet the application of that outline to particular cases must be very different among them from what it is with ourselves. Thus philosophers have fancied imaginary states of human society, in which the present laws of distributive and commutative justice could not be observed: but, even in such states of society, the fundamental principles of justice would continue obligatory, and would only be varied in their application.

Brutes appear, in short, to possess, but in a more imperfect degree, many of the same sensitive faculties as mankind. Instinct must always be a simple principle, an original feeling; the only business of which is to rouse to action,—to call the reasoning or comparing powers to exert themselves. To talk of instinctive principles that admit of improvement, and accommodate themselves to circumstances, is merely to introduce new terms into the language of philosophy. No such improvement or accommodation to circumstances can ever take place without a comparison of ideas, and a deduction of inferences. When we consider with how much difficulty that acquaintance with the manners and customs of mankind, which we call knowledge of the world, is obtained, we cannot be surprised that even philosophers should be so imperfectly acquainted with the more minute particulars in the manners and economy of the brutes. To man their manners are much less interesting than those of his own species; and there are, besides, many difficulties to prevent us from becoming intimately acquainted with them, however earnestly we may turn our attention to this object.

If to those powers by which animals are so eminently distinguished above the species of the vegetable and the mineral kingdom, we add the peculiarities of their form, of the structure of the interior parts, and of their exterior covering,—the happy adaptation of all their organs to the purposes for which they seem intended by nature,—and the wise provision by which they are enabled to continue their kind; we cannot but consider them as constituting by far the most eminent order among the works of creation. They alone are capable of happiness. The rest of the universe seems to be intended for their accommodation. The enjoyments which they are formed to receive, the duties which they are destined to fulfil, and the laws by which the duty and the happiness of all animals are so closely connected, afford the most eminent proofs of the perfection of the divine nature, that the works of creation exhibit. The inferior parts of nature are beautiful, or grand, or regular, only in proportion as they are formed to excite certain sentiments in the minds of animated, thinking beings; at least, were they not calculated to contribute to the happiness of such beings, by communicating to them agreeable sentiments, their order, magnificence, and beauty, would be lost, or incapable of serving any visible end. Yet all this has no possible connexion with the possession of an accountable and immortal principle. Matter and spirit are equally the works of the Creator, and perhaps equally created out of nothing—for we have no more reason beyond what our own pride would suggest to us to conceive that spirit is an emanation or extension of the essence of the Creator than that matter is. Each of them, therefore, as the works of an omnipotent and benevolent Creator, is entitled to reverence. Brutes are not immortal, for they have no principle that is designed to be so: but till it be demonstrated that the plastic substance of matter, admitted to be capable of instinct, is necessarily and absolutely incapable of consciousness, memory, reflexion, and judgment, the experienced train of facts daily and hourly

starting around us should reasonably induce us to believe them possessed of these internal senses in conjunction with mankind, though in a far subordinate and less perfect degree.

Natural history, then, comprises in its general scope the history of minerals, plants, and animals: the first of which differ from the two last by being produced fortuitously, growing by external accretion, or the mere juxtaposition of new matter alone; and being only capable of destruction by mechanical or chemical force; while the other two, on the contrary, are produced by generation, grow by nutrition, and are destroyed by death; are actuated by an internal power, and possessed of parts mutually dependent, and contributory to each others' functions. But, while animals and vegetables thus agree in their general characters, they also possess features of distinction, which it is never difficult to lay hold of, excepting in the few anomalous cases to which we have already adverted. While both agree in an origin by generation, growth by nutrition, and a termination by death; in an organised structure, and an internal living principle, they differ in the power with which the living principle is endowed, and the effects it is capable of exerting. In the plant it is limited, so far as we are capable of tracing it, to the properties of mere irritability and contractility; in the animal it superadds to these properties those of muscularity, sensation, and voluntary motion. Animals differ from animals in the greater or less perfection with which the faculties connected with sensation are allotted to them. Man differs from, and is raised above the whole, by the possession of a rational and immortal spirit.

The various classifications under which these departments are usually considered are best discussed under the separate articles of the departments themselves. We have therefore already noticed plants under BOTANY, metals and minerals under MINERALOGY, and reserve the classification of animals for ZOOLOGY: the present article may be regarded as a kind of introduction to the whole.

The *Linnaean system* of natural history, which we have followed with some modifications, is divided into the five branches of class, order, genus, species, and varieties, with their names and characters. Of the three grand divisions, viz. the animal, vegetable, and mineral kingdoms, the animal of course ranks highest in the comparative estimation of this great naturalist; the next is the vegetable, and the lowest is the mineral kingdom. The animal kingdom is divided into six classes, formed from their internal structure, and is thus exhibited:—

		Classes		
1. Mammalia	{	Heart, with two auricles and two ventricles; blood warm & red.	}	viviparous.
2. Birds	{	Heart, with one auricle and one ventricle; blood cold and red.	}	oviparous.
3. Amphibia	{	Heart, with one auricle and one ventricle; blood cold and red.	}	lung voluntary.
4. Fishes	{	Heart, with one auricle and one ventricle; blood cold and red.	}	

5. Insects { Heart, with one auricle and no ventricle; sanies cold and white. } have antennæ.
 6. Vermes { } tentacula.

The above six classes are divided into orders, and the orders into genera, and the genera into species and varieties.

Class I. MAMMALIA.

Names of the orders.	Number of genera in the several orders.
Primates	4
Bruta	9
Feræ	10
Glires	10
Pecora	8
Belluæ	4
Cete	4
	—
	49
	—

Class II. AVES.

Accipitres	4
Picæ	26
Anseres	13
Grallæ	20
Gallinæ	10
Passeres	17
	—
	90
	—

Class III. AMPHIBIA.

Reptilia	5
Serpentes	2
	—
	7
	—

Class IV. PISCES.

Apodes	12
Jugulares	6
Thoracici	21
Abdominales	16
Branchiostegi	10
Chondroptergi	7
	—
	72
	—

Class V. INSECTÆ.

Coleoptera	55
Hemiptera	14
Lepidoptera	3
Neuroptera	7
Hymenoptera	25
Diptera	12
Aptera	15
	—
	131
	—

Class VI. VERMES.

Intestina	21
Mollusca	31
Testacea	36
Zoophyta	15
Infusoria	15
	—
	118
	—

Such is the tabular view of the animal kingdom, according to the Linnaean system; but new species in the several genera are continually discovered, and not unfrequently new genera likewise are added to the orders. See the several orders and genera in the alphabetical arrangement of this work.

NATURAL ORDERS in botany. See BOTANY, index.

NATURALISATION, in law. No aliens can be naturalised unless they have received the sacrament within one month before the bringing in of the bill, and taken the oaths of allegiance and supremacy in the presence of parliament. A person who is naturalised may have lands by descent as heir at law, as well as obtain them by purchase; but he is disabled from being a member of the privy council or parliament, or from holding offices; 7 Jac. I. c. 2; 12 Will. III. c. 2. All children born out of the king's dominions, whose fathers were or are subjects of this kingdom at the time of their birth, are adjudged to be natural born subjects of this realm, except children of parents attainted of treason, or that are in the actual service of a foreign prince at enmity with us: 4 Geo. II. c. 21. Every foreign seaman who in time of war serves two years on board an English ship is ipso facto naturalised: 13 Geo. II. c. 3. And all foreign protestants and Jews, upon their residing seven years in any of the British colonies, without being absent above two months at a time, or serving two years in a military capacity there, are, upon taking the oaths, naturalised to all intents and purposes, as if they had been born in this kingdom; and are therefore admissible to all such privileges, and no other, as protestants or Jews born in this kingdom are entitled to. See ALIEN and DENIZEN. In France, before the revolution, naturalisation was the king's prerogative; in England it is only conferred by act of parliament. In the former of those places, before their government was overturned, Swiss, Savoyards, and Scots did not require naturalisation, being reputed natives.

NAVAL. See NAVIGATION.

NAVAL ARCHITECTURE. See SHIP-BUILDING. NAVAL CAMP, in antiquity, a fortification consisting of a ditch and parapet on the land side, or a wall built in the form of a semicircle, and extended from one point of the sea to another. This was sometimes defended with towers and beautified with gates, through which they issued forth to attack their enemies. Homer has left us a remarkable description of the Grecian fortifications of this sort, in the Trojan war. Towards the sea, or within it, they fixed great pales of wood, like these in their artificial harbours; before these the vessels of burden were placed in such order as that they might be instead of a wall, and give protection to those within; in which manner Nicias is reported by Thucydides to have encamped himself; but this seems only to have been practised when the enemy was thought superior in strength, and raised great apprehensions of danger in them. When their fortifications were thought strong enough to defend them from the assaults of enemies, it was customary to drag their ships to shore, which the

Greeks called *ενωλκειω*, the Romans subducere. Around the ships the soldiers disposed their tents, as appears every where in Homer; but this seems only to have been practised in winter, when their enemy's fleet was laid up and could not assault them; or in long sieges, and when they lay in no danger from their enemies by sea; as in the Trojan war, where the defenders of Troy never once attempted to encounter the Grecians in a sea-fight.

NAVAL CROWN, among the ancient Romans, a crown adorned with figures of prows of ships, conferred on persons who in sea-engagements first boarded the enemy's vessel.

NAVAL STORES comprehended all those particulars made use of, not only in the royal navy, but in every other kind of navigation; as timber and iron for shipping, pitch, tar, hemp, cordage, sail-cloth, gun-powder, ordnance, and fire-arms of every sort, ship-chandlery, wares, &c.

NAVAL AND MILITARY BIBLE SOCIETY. See SOCIETY.

NAVAL TACTICS. See TACTICS, MILITARY AND NAVAL.

NAVAN, a Market and post town of Ireland, in the county of Meath, about twenty-three miles north-west of Dublin, on the Boyne. It consists of two chief streets, which intersect each other at right angles. The Tholsel, or town-house, is a handsome stone building. This place was formerly in great repute, and walled in by Hugh de Lacy. An abbey for regular canons, dedicated to the Virgin Mary, was erected here; and either founded or re-edified by Joceline de Angulo or Nangle, about the end of the twelfth century. In the burial ground are the remains of many ancient tombs, with figures in alto-relievo; and a barrack for one troop of horse is built on the site of the abbey. Athlumny Castle, a noble building now in ruins, was burnt on the approach of Cromwell in 1649. This town is finely situated, but badly built; its manufacture of sacking employs nearly 300 looms, and there are likewise very extensive flour, cotton, and paper mills, a brewery, a distillery, with other manufactures incident to the trade and situation of the place. It has four fairs, which are well attended.

NAVARETE (Juan Fernandez), surnamed El Mudo, a Spanish painter, was born deaf and dumb at Logranno in 1562. He travelled into Italy for improvement, and on his return to Madrid, in 1568, was appointed painter to the king. His best pieces are preserved in the Escorial; and a Holy Family in particular, which is his masterpiece: it contains the strange accessories of a dog, a cat, and a partridge. His mode of coloring was fine, and acquired him the name of the Spanish Titian. He died in 1579.

NAVARIN, **NAVARINO**, or **Avarin**, a town of Greece, on the south-west coast of the Morea, north of Modon. It is a place of considerable trade, from the excellence of its port, which is the largest in the Morea, and is said to be capable of containing 2000 sail. A range of high mountains protects it north and north-east. The houses near the harbour are well built; but the streets are narrow and dirty, steep and uneven.

Here, in the decline of 1827, was fought the celebrated battle of Navarino, in which the English, French, and Russians, unitedly attacked and destroyed a powerful Turkish and Egyptian force, in virtue of the treaty of London, signed in July of that year. The fortifications of Navarino consist of four bastions and a citadel. The only ruins of interest are a large aqueduct, a fountain, and the marble pillars which support the façade of the mosque. Old Navarin lies at the north end of the bay, and is supposed to occupy the site of the ancient Pylos. The adjacent country is fertile. It is seventy-two miles south-west of Argos, and eighty-eight south-west of Corinth. Long. 21° 25' E., lat. 37° 5' N.

NAVARRE, an ancient kingdom of Europe, established soon after the invasion of the Moors. It was bounded on the north-east by the Pyrenees, east and south by Arragon, and west by Old Castile and Biscay, and was about eighty miles long from north to south, by seventy-five broad. The name is a contraction of Nava Errea, which, in the language of its ancient inhabitants, signifies a land of valleys. In 470 or 472^d Pampeluna and the surrounding district were seized by Euric, or Evaric, king of the Goths. That people were Arians, while the natives of Navarre were Catholics, and each party endeavoured for a time to maintain their religion by force of arms; but, the former being unsuccessful, many of them left the country, and settled on the banks of the Garonne, where their descendants acquired the name of Gascons. Some time after the Goths were expelled by the Moors; but in 806 the latter were in their turn driven out by Louis of Aquitaine, a son of Charlemagne. Half a century after a count of Bigorre established in Navarre a sovereignty, which lasted in his family 500 years. This kingdom was dismembered in 1512; the reigning prince having been excommunicated by the pope; and Ferdinand V. of Spain assumed the execution of the ban. He then seized all the part lying on the Spanish side of the Pyrenees; while what has been called French Navarre preserved its independence, and continued a separate state till added to the dominions of France by the accession of Henry IV. to the throne. It is now part of the department of the Lower Pyrenees. See PYRENEES, DEPARTMENTS OF. This has also been called Lower Navarre.

NAVARRE, UPPER, is a province of Spain, containing the greater part of the above kingdom; and is fifty-four miles long from north-east to south-west, and forty-five broad from north-west to south-east. It abounds in sheep and cattle; game of all kinds, as boars, stags, and roe-bucks; and in wild fowls, horses, and honey; yielding also some grain, wine, oil, and a variety of minerals, medicinal waters, and hot baths. Some of the ancient chiefs of this country were called Sobrarbores, from the customs which prevailed among the inhabitants of choosing and swearing their princes under some particular tree. Pampeluna is the capital.

NAVARRE, NEW, a former province of Mexico, bounded on the north by an unknown tract belonging to native tribes; east by New Mexico Proper, and New Biscay; south by Culican;

and west by the gulf of California. It is now subdivided into various modern intendancies.

NAVARRE (Martin Azpilcueta), successively professor of jurisprudence at Toulouse, Salamanca, and Coimbra, was born at Verasoa, near Pampeluna, in Navarre, whence his assumed name, in 1494. Pius V. appointed him assessor to cardinal Francis Alciat; and Gregory XIII. was very familiar with him. He was universally esteemed, not only for his knowledge, but also for his probity and virtue. His temperance preserved to him a vigorous constitution; and, at a very advanced age, his mind was equal to the severest study. At the age of eighty he set out for Rome to defend his friend Bartholomew Cawenza, archbishop of Toledo, who had been charged with heresy by the inquisition at Rome. His economy enabled him to give liberal assistance to the poor. His charities, indeed, were so constant, that his mule, it is said, would stop as soon as she perceived a beggar. He died in Rome in 1586, aged ninety-two. His works were collected and printed in 6 vols. folio, at Lyons, in 1597; and at Venice in 1602.

NAVARRE (Peter), an officer of eminence in the sixteenth century, particularly celebrated for his dexterity in directing and springing mines. He was born at Biscay, of parents in rather a low station in life, and was first a sailor, but afterwards went to Italy, where he became footman to the cardinal of Arragon. He afterwards enlisted as a soldier in the Houstine army; and, having served there for some time, went to sea again, and distinguished himself by his courage. General Gonsalvo de Cordone employed him in the war against Naples, and made him a captain. Having contributed greatly to the taking of that city, by springing a mine, the emperor rewarded him with the earldom of Alveto in that kingdom, and gave him the title of count of Navarre. Having the command of a naval expedition against the Moors, in Africa, he was at first very successful, and took Oran, Tripoli, and some other places; but being afterwards shipwrecked on the island of Gerbes, the great heats and the Moorish cavalry destroyed a part of his army. He was equally unfortunate in Italy; he was taken prisoner at the battle of Ravenna in 1512, and languished in France for two years. Finding that the king of Spain, who had been prejudiced against him, would do nothing for his ransom, he went into the service of Francis I., who gave him the command of twenty companies of infantry. He distinguished himself in several successful expeditions until 1522, when, having been sent to the relief of the Genoese, he was taken by the Imperialists. They conducted him to Naples, where he remained a prisoner for three years in the castle of Ouf. He was released by the treaty of Madrid, and fought at the siege of Naples under Lautric in 1528; but, being again made prisoner in the retreat from Aversa, he was sent a second time to the castle of Ouf. Here he died a natural death; but some pretend that he was strangled in his bed, having arrived at a very advanced age.

NAUCLERUS (John), a gentleman, descended of a noble family of Suabia, provost of the church of Thuringia, and professor of law in the

university of that city. His original name was Vergeau, which, in German, signifies a sailor; and which he changed into Naucleros, a word of the same signification in Greek. He wrote a Latin Chronicle, commencing with the creation, and continued down to A. D. 1500, which was continued by Basilius and Surius to 1564. It was printed at Cologne, in folio, in 1564 and 1579.

NAUCRARI, among the ancient Athenians, were the chief magistrates of the *Δημοι*, boroughs, or townships, called *Ναυκραριαί*; because each was obliged, besides two horsemen, to furnish one ship for the public service.

NAUCRATIS, a city of Egypt, on the left side of the Canopic mouth of the Nile. It was celebrated for its commerce, and no ship was permitted to land at any other place, but was obliged to sail directly to the city, there to deposit its cargo. It gave birth to Athenæus.

NAUCRATITES *Nomos*, in ancient geography, was, according to Pliny, a division of the Delta, so called from the above town; but Ptolemy comprises it under the *Nomos Saïtes*.

NAUDE (Gabriel), a celebrated physician, was born in Paris in 1600. His parents sent him, at an early age, to a religious community to learn grammar and the principles of Christianity. Thence he was removed to the university, where, having acquired classical learning and philosophy, he was created M. A. while yet very young. He then studied physic, and Henri de Mesmes, president à mortier, hearing his character, made him keeper of his library, and took him into his family; which furnished him both with means and leisure to improve himself as he could wish. In 1626 he went to Padua, but the death of his father called him back to Paris before the end of the year. In 1628 the faculty of physic appointed him to deliver the customary discourse on the reception of licentiates; which he accomplished with great applause. In 1631 cardinal Bagni made him his librarian and Latin secretary, and carried him with him to Rome, where he continued till the cardinal's death, July 24th, 1641; and in the interim made an excursion to Padua, to take his degree of M. D. Louis XIII. made him his physician on March 25th, 1633. He was, however, detained in Italy by advantageous offers made to him by cardinal Barberini. But, when cardinal Richelieu sent for him to be his librarian, he immediately returned to Paris in March 1642; but, Richelieu dying in December following, he succeeded to the like post under Mazarine, for whom he formed a most complete library, which he raised in seven years to the number of 40,000 volumes. The cardinal, however, only gave him two small benefices; viz. a canonry of Verdon, and the priory of Artige in the Limosin: not worth above 1200 livres a year; but he met with a still greater disappointment in seeing this library, which he had collected with so much pains, totally dispersed. Upon the disgrace of Mazarine it was sold; and Patin, in a letter of March 5th, 1651, says, that Naude bought all the books in physic for 3500 livres. Christiana, queen of Sweden, next made him her librarian: but he soon became disgusted with his residence in Sweden; the manners of

the people did not please him; and he quitted Stockholm laden with presents from the queen and several persons of distinction. The fatigue of the journey, however, threw him into a fever, which obliged him to stop at Abbeville; where he died July 29th, 1653. He was very regular in his conduct, never drinking any thing but water. Study was so much his principal occupation that he was styled a *Helluo librorum*, or a gormandiser of books. He wrote a great number of books, a catalogue of which may be seen in *Niceron's Memoires*, tom. ix.; but *Voltaire* says that his *Apologie des grands Hommes Accusés de Magie* is almost the only one which continues to be read.

NAVE, *n. s.* Sax. *naþ*; Belg. *nave*; Dan. *naver*. The middle part or boss of a wheel.

Out, out, thou strumpet fortune! all you gods
In general synod take away her power;
Break all the spokes and fellies from her wheel,
And bowl the round *nave* down the hill of heaven,
As low as to the fiends. *Shakspeare. Hamlet.*

In the wheels of waggons the hollows of the *naves*,
by their swift rotations on the ends of the axle-trees,
produce a heat sometimes so intense as to set them
on fire. *Ray.*

NAVE, or } Ital. *nave*; Fr. *nef*; Qu. Lat.
NEF, *n. s.* } *navis*? (Resembling the bottom of
a ship.) The middle roof, and hence middle
aisle of a church; the body of a church.

It comprehends the *nave* or body of the church,
together with the chancel. *Ayliffe's Parergon.*

The church of St. Justina, by Palladio, is the
most handsome, luminous, disencumbered building
in Italy. The long *nef* consists of a row of five
cupolas, the cross one has on each side a single
cupola deeper than the others. *Addison.*

Or hardened from some earth-absorbing fire,
While yet the globe reeked from its funeral pyre;
The fretted pinnacle, the aisle, the *nave*,
Were there, all scooped by Darkness from her cave.
Byron.

NAVE, in architecture, is the body of a church,
where the people are disposed, reaching from
the rail of the door to the chief choir. Some
derive the word from the Greek *ναος*, a temple;
and others from *navis*, a ship, as the roof of a
church bears some resemblance to a ship.

NA'VEL, *n. s.* } Sax. *naþela*; Belg. *navel*;
NA'VEL-GALL, } Swed. *nafla*; from *nave*, a
NA'VEL-STRING, } boss. The boss or central
NA'VEL-WORT. } point of the abdomen: *navel-*
gall is a complaint or wound in horses, described
below: *navel-string*, the membrane which con-
nects the infant with its mother: *navel-wort*, a
plant.

Being prest to the war,
Even when the *navel* of the state was touched,
They would not thread the gates. *Shakspeare*

As children, while within the womb they live,
Feed by the *navel*: here they feed not so. *Davies.*

Imbrāsides address
His javeline at him, and so ript his *navill* that the
wound,

As endlessly it shut his eyes, so opened on the
ground,

It powred his entrails. *Chapman.*
Me from the womb the midwife muse did take,
She cut my *navel*. *Cowley.*

Within the *navel* of this hideous wood,
Immured in cypress shades, a sorcerer dwells.
Milton.

The use of the *navel* is to continue the infant unto
the mother, and by the vessels thereof to convey its
aliments. *Brown.*

There is a superintending Providence: that some
animals will hunt for the teat before they are quite
gotten out of the secundines and parted from the
navelstring. *Derham.*

Navelgall is a bruise on the top of the chine of the
back, behind the saddle, right against the *navel*, oc-
casioned either by the saddle being split behind, or
the stuffing being wanting, or by the crupper buckle
sitting down in that place, or some hard weight or
knobs lying directly behind the saddle. *Anon.*

NAVEL, in anatomy, the centre of the lower
part of the abdomen; being that part where the
umbilical vessels pass out of the placenta of the
mother. See ANATOMY.

NAVEL WORT, in botany. See COTYLEDON.

NAVEW, in botany. See BRASSICA.

NAUGHT, Sax. *naþt*, *naþþt*, *ne aught*, not
any thing. Bad; corrupt; worthless: seldom
used but in banter.

It is *naught*, it is *naught*, saith the buyer.

Proverbs.
With them that are able to put a difference be-
tween things *naught* and things indifferent in the
church of Rome, we are yet at controversy about the
manner of removing that which is *naught*. *Hooker.*

Thy sister's *naught*: Oh, Regan! she hath tied
Sharp-toothed unkindness like a vulture here.
Shakspeare.

NAUGHT, *n. s.* Nothing. Commonly, though
improperly, written *nought*. See AUGHT and
OUGHT. This seems the same word as above.

Be you contented
To have a son set your decrees at *naught*,
To pluck down justice from your awful bench.
Shakspeare.

NAUGHTY, *adj.* } From *naught*, bad.
NAUGHTINESS, *n. s.* } Wicked; corrupt; faulty:
often used ludicrously.

A prince of great courage and beauty, but fostered
up in blood by his *naughty* father. *Sidney.*

No remembrance of *naughtiness* delights but mine
own; and methinks the accusing his traps might in
some manner excuse my fault, which certainly I loth
to do. *Id.*

These *naughty* times
Put bars between the owners and their rights.

Shakspeare.
How far that little candle throws his beams!
So shines a good deed in a *naughty* world. *Id.*

The *naughtiness* of infidelity will appear by con-
sidering its effects and consequences. *Barrow.*

If gentle slumbers on thy temples creep,
But, *naughty* man, thou dost not mean to sleep,
Betake thee to thy bed. *Dryden.*

NAVIGATION.

NAVIGABLE, *adj.* } Lat. *navis*, a ship;
 NAVIGATE, *v. n. & v. a.* } Gr. *ναωτ, ναω*, to swim;
 NAVIGATION, *n. s.* } Sans. *navi*. Capable
 NAVIGATOR, } of floating ships or
 NA'VVY, *n. s.* } boats : to navigate is
 NA'VAL, *adj.* } to pass by water or
 by sea vessels: navigation, the act, art, or practice of passing by water or by ships; also the vessels used on water: a navigator is a seaman, sailor, or voyager: navy, an assembly or fleet of ships: naval, consisting of, or belonging to ships, or to the navy of a particular country.

By the sounding of *navigators*, that sea is not three hundred and sixty foot deep. *Brerewood.*

Tho' you untie the winds, and let them fight
 Against the churches, tho' the yesty waves
 Confound and swallow *navigation* up. *Shakspeare.*

On the western coast rideth a puissant *navy*.
Id. Richard III.

The first-peopled cities were all founded upon these *navigable* rivers or their branches, by which the one might give succour to the other. *Raleigh.*

Our shipping, for number, strength, mariners, and all things that appertain to *navigation*, is as great as ever. *Bacon.*

Many have motioned to the council of Spain, the cutting of a *navigable* channel through this small isthmus, so to shorten their common voyages to China and the Moluccoes. *Heylyn.*

The contrivance may seem difficult, because the submarine *navigators* will want winds, tides, and the sight of the heavens. *Wilkins's Mathematical Magic.*

Levy money, and return the same to the treasurer of the *navy* for his majesty's use. *Clarendon.*

The rules of *navigators* must often fail. *Brown.*

Encamping on the main,
 Our *naval* army had besieged Spain;
 They, that the whole world's monarchy designed,
 Are to their ports by our bold fleet confined. *Waller.*

The loadstone is that great help to *navigation*.
More.

Masters of such numbers of strong and valiant men, as well as of all the *naval* stores that furnish the world. *Temple.*

This terrestrial globe, which before was only a globe in speculation, has since been surrounded by the boldness of many *navigators*. *Id.*

The narrow seas can scarce their *navy* bear,
 Or crowded vessels can their soldiers hold. *Dryden.*

Almighty Jove surveys
 Earth, air, and shores, and *navigable* seas. *Id.*

Rude as their ships was *navigation* then,
 No useful compass or meridian known;
 Coasting, they kept the land within their ken,
 And knew no north but when the polestar shone. *Id.*

As our high vessels pass their watry way,
 Let all the *naval* world due homage pay. *Prior.*
 The Phœnicians *navigated* to the extremities of the western ocean. *Arbutnot on Coins.*

When Pliny names the Pœni, as inventors of *navigation*, it must be understood of the Phœnicians, from whom the Carthaginians are descended. *Id.*

The Cape of Good Hope was doubled in those early times; and the Portuguese were not the first discoverers of that *navigation*. *Id.*

They trust in *navies*, and their *navies* fail—
 God's curse can cast away ten thousand sail!
 They trust in armies, and their courage dies;
 In wisdom, wealth, in fortune, and in lies. *Couper.*

These therefore I can pity, placed remote
 From all that science traces, art invents,
 Or inspiration teaches; and enclosed
 In boundless oceans never to be passed
 By *navigators* uninformed as they,
 Or ploughed perhaps by British bark again. *Id.*

The ministers were wisely moved, by a liberal and prospective policy, to endeavour to consolidate as much as possible the strength of the empire, by opening to Catholic officers in the army and *navy* the same road to honour and emolument which had always been open to Protestants. *Bp. Watson.*

HISTORY OF NAVIGATION.

The early history of navigation, like that of all other useful arts, is lost in obscurity. But the possibility of making use of water, as a means of passing from one place to another, must soon have suggested itself to those who lived in the neighbourhood of lakes and rivers. And, before the first voyage to sea in search of wealth and commerce was undertaken, there can be little doubt that considerable knowledge of the principles of floating bodies had been attained, and considerable advances made in the art of building vessels that might be guided on the water as well as swim, and carry in it.

The Phœnicians are the earliest navigators of whom any account has come down to us. Their poverty, and the scantiness of their territory, had probably combined to induce them to seek their bread upon the waters; and, possessing three good sea ports, the spirit of enterprize and turn for traffic, by which they were distinguished, soon led them to perceive that the road to advantage for them was the bosom of the ocean. Lebanon, and the other neighbouring mountains, furnished them with excellent wood for ship-building, and in a short time they possessed a numerous fleet, with which they were constantly hazarding new navigations, and establishing and extending their commercial relations, so that they quickly became so wealthy and populous as to be in a condition to send out colonies, the principal of which was that of Carthage; a colony which, inheriting the commercial spirit of the mother country, in time became not only the rival of Tyre itself, but greatly surpassed it; sending its merchant fleets through the pillars of Hercules, now the straits of Gibraltar, along the western coasts of Africa and Europe, and as some authors conjecture to America.

Tyre, whose riches and power are celebrated both by sacred and profane authors, being destroyed by Alexander the great, its navigation and commerce were transferred by the conqueror to Alexandria, a new city, admirably situated for these purposes, and the proposed capital of the empire of Asia, which Alexander then meditated. Thus arose the navigation of the Egyptians,

which was afterwards so cultivated by the Ptolemies, that Tyre and Carthage were forgotten.

Egypt being reduced to a Roman province, after the battle of Actium, its trade and navigation fell into the hands of Augustus, in whose time Alexandria was inferior only to Rome; and the magazines of the capital of the world were wholly supplied from the capital of Egypt.

At length Alexandria itself underwent the fate of Tyre and Carthage; being surprised by the Saracens, who had overspread the northern coasts of Africa, &c.; and its commerce has ever since been in a languishing state, though it still has a considerable share of the trade which the Christian merchants carry on in the Levant.

The ancient Britons had inherited from their earliest ancestors many of the ruder arts of navigation. Their ships were large open boats, framed of light timbers, ribbed or watted with hurdles and lined with hides, and furnished with masts and sails, the latter being formed of hides and the tackle of thongs. Among the Veneti they were of hides as late as the days of Cæsar; they were never furled, but bound to the mast. These slight sea-boats were, however, soon dismissed for the more substantial vessels, and artificial sails of the Romans.

The fall of Rome and its empire involved the temporary ruin of all the arts of peace, the barbarians, into whose hands it fell, contenting themselves for some time with the spoils of the industry of their predecessors. But the more brave and active of these savage conquerors, the Turks in Gaul, the Goths in Spain, and the Lombards in Italy, soon perceived the advantages of navigation and commerce; and, learning the methods of practising them from the people whom they had subdued, they were speedily able to give new lessons on the subject, and set on foot new institutions for their promotion.

It is doubtful which of the European nations first again betook themselves to commerce, after the dissolution of the Roman empire; but on the whole the Italians, and particularly the Venetians and Genoese, seem best entitled to the glory of this restoration. Their situation for navigation was singularly advantageous. In the bottom of the Adriatic were a great number of marshy islands, separated by narrow channels, well screened, and almost inaccessible, the residence of some fishermen, who supported themselves by a little trade in fish and salt, the latter of which they found in some of the islands. Thither the Veneti, a people inhabiting that part of Italy along the shores of the gulf, retired, when Alaric king of the Goths, and afterwards Attila king of the Huns, ravaged Italy.

These new islanders, little imagining that this was to be their fixed residence, did not think of composing any body politic; but each of the seventy-two islands of the little Archipelago continued a long time under its separate master, and each made a distinct commonwealth. When their commerce was become considerable enough to give jealousy to their neighbours, they began to think of uniting into a body. And it was this union, first begun in the sixth century, but not completed till the eighth, that laid the sure foundation of the future grandeur of the state of

Venice. From the time of this union, their fleets of merchantmen were sent to all parts of the Mediterranean; and at last to those of Egypt, particularly Cairo, a new city, built by the Saracens on the east banks of the Nile, where they traded for the spices and other products of the Indies. Thus they flourished, increased their commerce, their navigation, and their conquests on the terra firma, till the league of Cambray in 1508, when a number of jealous princes conspired to their ruin; which was the more easily effected by the diminution of their East India commerce, of which the Portuguese had got one part, and the French another. Genoa, which had applied to navigation at the same time with Venice, and with equal success, was a long time its dangerous rival, disputed with it the empire of the sea, and shared with it the trade of Egypt and other parts both of the east and west.

Jealousy soon began to break out; and, the two republics coming to blows, there was almost continual war for three centuries ere the superiority was ascertained; when, towards the end of the fourteenth century, the battle of Chioza ended the strife; the Genoese, who till then had usually the advantage, having now lost all, and the Venetians, almost become desperate, at one happy blow, beyond all expectation, secured to themselves the empire of the sea, and superiority in commerce.

About the same time that navigation was revived in the southern parts of Europe, a new society of merchants was formed in the north, which not only carried commerce to the greatest perfection it was capable of, till the discovery of the East and West Indies, but also formed a new scheme of laws for the regulation thereof, which still obtain under the names of Uses and Customs of the Sea. This society is that famous league of the Hanse towns, commonly supposed to have begun about 1164. See HANSE TOWNS. For the modern state of navigation in England, Holland, France, Spain, Portugal, &c. See COMPANY, TRADE, &c.

In examining the reasons why commerce has passed successively from the Venetians, Genoese, and Hanse towns, to the Portuguese and Spaniards, and from these again to the English and Dutch, it may be established as a maxim, that the relation or union between commerce and navigation is so intimate, that the fall of the one inevitably draws after it that of the other; and that they will always either flourish or dwindle together.

The art of navigation has been greatly improved in modern times, both with respect to the form of the vessels and the method of working them. The use of rowers is now entirely superseded by the improvements made in the sails, rigging, &c., by which means they not only sail much faster than formerly, but can tack in any direction with the greatest facility. Ancient navigation indeed consisted of little more than coasting along shore. But the invention of the compass enabled the mariner to leave the land, and launch into the wide ocean with perfect confidence that he would find his way to his desired port; and it is to the date of this invention that the rise of navigation as a science must be referred.

Some ascribe the invention of the mariner's compass to Flavio Gioia, of Amalfi in Campania, in the fourteenth century; while others affirm that it came from the east, and that it was earlier known in Europe. It is certain, however, that it was not in common use in navigation till about 1410, when, under the auspices of Henry duke of Visco, brother of the king of Portugal, considerable improvements were made in this art. In 1485 Roderic and Joseph physicians to king John II. of Portugal, aided by one Martin of Bohemia, a Portuguese native of the island of Fayal, a pupil of Regiomontanus calculated tables of the sun's declination for the use of sailors, and recommended the astrolabe for taking observations at sea. Columbus is said to have benefited by the instructions of Martin, and to have been himself useful in improving the knowledge of the Spaniards in the art. Charles V. of Spain, afterwards founded a lecture at Seville, whose object was to diffuse a knowledge of navigation. See MAGNETISM.

The variation of the compass could not long remain a secret. Columbus, as his son Ferdinand asserts, observed it on the 14th of September, 1492. Sebastian Cabot is said also to have observed it. It was found by Gonzales d'Oveida that there was no variation at the Azores; but it is now known that the variation alters in time, and at the Azores at the time we write it is about 20° westerly. The use of the cross staff began now to be introduced among seamen. This ancient instrument is described by John Werner of Nuremberg in his notes on the first book of Ptolemy's Geography, printed in 1514. He recommends it for measuring the angular distance between the moon and some stars for the purpose of determining the longitude. The recommendation of such an instrument for such a purpose is curious, as marking the state of practical science at that period, and the indefinite conception of the difficulties attending the longitude problem which its first proposer Werner entertained.

Much as had been done in navigation, it must still be admitted that at this period it was still in a rude state. Even the construction of charts was not at all understood, the only ones in use being plane charts, which in places distant from the equator must often have greatly misled those who confided in them. At length there were published two Spanish treatises on this art, in 1545, one by Peter de Medina, the other by Martin Cortes, which contained a system of navigation as it was then understood. These two authors appear to have valued themselves very highly on their performances, and they were no doubt of use in their time. Medina defended the plane chart, but Cortes pointed out very clearly its errors. He speculated too on the variation of the compass, and endeavoured to account for it, by supposing the needle to be influenced by a magnetic pole, different from that of the world; an hypothesis which has lately been revived, with the additional supposition that the magnetic pole moves from east to west round the pole, in, or nearly in, the same parallel of latitude. Whether this hypothesis may ultimately be found to be the true one or not, it certainly accounts both

for the variation itself and the changes which it has been observed to undergo. (See Barlow on Magnetic Attractions).

Medina's being the earliest book on the subject was soon translated into Italian, French, and Flemish, and long served as a guide to the mariners of those countries. But both with respect to science and practice it was vastly inferior to the work of Cortes who was long the favorite of our English seamen. It was translated into English in 1561, and about twenty years after Medina's was also translated, but it never attained any popularity.

A system of navigation at that time consisted of the following and similar subjects.—An account of the Ptolemaic hypothesis and the circles of the sphere; of the roundness of the earth, longitudes, latitudes, climates, &c.;—the eclipses of the sun and moon; a calendar; the method of finding the prime epact, moon's age, and tides; a description of the compass, and an account of its variation, for discovering which Cortes said an instrument might easily be contrived; tables of the sun's declination for four years, to find the latitude by his meridian altitude; directions for finding the latitude by certain stars; of the course of the sun and moon; the length of the days; of time and its divisions; the method of finding the hour of the day and night; and lastly, a description of the sea chart, on which, to discover a ship's place, they made use of a small table which showed, upon an alteration of 1° of lat., how many leagues they were to run on each rhumb; and their departure from the meridian. This table in its form and use was precisely the same as the common and useful table of difference of latitudes and departures still given in works of navigation. Some instruments were described, particularly by Cortes, such as one to find the declination of the sun, with the age and place of the moon; certain dials, the astrolabe and cross staff; and a complex machine to discover both the hour and latitude at once.

As Werner had proposed to find the longitude by observations on the moon, so Gemma Frisius in 1530 advised the keeping of time for the same purpose by means of small clocks, or watches, then as he says newly invented. Thus the two leading practical methods of finding the longitude at sea which have only been perfected in our own days were clearly enough understood 300 years ago, though it has required all the science and mechanical skill that the enlightenment of modern times has called into action to bring these ancient schemes to any practical bearing. Frisius also contrived a new sort of cross-staff, and an instrument called the nautical quadrant which was much praised by William Cunningham in his *Astronomical Class*, printed in 1559.

In 1537 Peter Nunez, or Nonius, published a book in the Portuguese language, to explain a difficulty in navigation that had been proposed to him by the commander Don Martin Alphonso de Susa. He there exposes the errors of the plane chart, and gives the solution of some curious astronomical problems, amongst which is that of determining the latitude from two altitudes of the sun and the intermediate change of

azimuth. He observes that though the rhumbs are spiral lines, yet the direct course of a ship is always on the arch of a great circle, whence the angle with the meridian will continually change; all that the steersman can do, for keeping the ship on a rhumb line, being to correct those deviations when they appear sensible. But the ship will thus describe a sort of polygon without the rhumb line; and the computations for the latitude, &c., founded on the supposition that the ship has sailed on a rhumb line, will in consequence be in some measure erroneous. Nonius also invented the method of subdividing the divisions on circular instruments by means of a moveable concentric circle, on which the divisions have a given difference in value from those on the circle on which it moves. This admirable contrivance is still sometimes called a nonius from the name of its inventor, and on nautical instruments is still in universal use, though on large fixed instruments it has been superseded. The method of Nonius, however, was much improved by Dr. Halley.

In 1577 Mr. William Bourne published a treatise, in which, by considering the irregularities in the moon's motion, he shows the errors of the sailor in finding her age by the epact, and also in determining the hour from observing on what point of the compass the sun and moon appeared. He advises, in sailing towards the high latitudes, to keep the reckoning by the globe, as there the plane chart is most erroneous. He despairs of our ever being able to find the longitude, unless the variation of the compass should be occasioned by some such attractive power as Cortes had imagined; of which, however, he doubts: but, as he had shown how to find the variation at all times, he advises to keep an account of the observations, as useful for finding the place of the ship; which advice was prosecuted at large by Simon Stevin, in a treatise published at Leyden in 1599; the subject of which was the same year printed at London in English by Mr. Edward Wright, entitled the Haven-finding Art.

In this ancient tract also is described the way by which our sailors estimate the rate of a ship in her course, by the log. This was so named from the piece of wood or log that floats in the water, while the time is reckoned, during which the line that is fastened to it is veering out. The author of this contrivance is not known; neither was it taken notice of till 1607, in an East India voyage published by Purchas; but from this time it became famous, and was much taken notice of by almost all writers on navigation in every country; and it still continues to be used as at first, though many attempts have been made to improve it, and contrivances proposed to supply its place; many of which have succeeded in quiet water, but proved useless in a stormy sea.

In 1581 Michael Coignet, a native of Antwerp, published a treatise in which he animadverted on Medina. In this he showed that the rhumbs are spirals, making endless revolutions about the poles, numerous errors must arise from their being represented by straight lines on the sea-charts; but, though he hoped to find a remedy for these errors, he was of opinion that the

proposals of Nonius were scarcely practicable and therefore in a great measure useless. In treating of the sun's declination, he took notice of the gradual decrease in the obliquity of the ecliptic; he also described the cross-staff with three transverse pieces, and which he owned to have been then in common use among the sailors. He likewise gave some instruments of his own invention; but all of them are now laid aside. He constructed a sea-table to be used by such as sailed beyond 60° of lat.; and at the end of the book is delivered a method of sailing on a parallel of latitude by means of a ring dial and a twenty-four hour-glass.

The same year the discovery of the dipping needle was made by Mr. Robert Norman. In his publication on that art he maintains, in opposition to Cortes, that the variation of the compass was caused by some point on the surface of the earth, and not in the heavens; he also made considerable improvements in the construction of compasses themselves; showing especially the danger of not fixing, on account of the variation, the wire directly under the fleur-de-lis; as compasses made in different countries have placed it differently. To this performance of Forman's is prefixed a discourse on the variation of the magnetical needle, by Mr. William Burrough, in which he shows how to determine the variation in many different ways. He also points out many errors in the practice of navigation at that time, and speaks in very severe terms concerning those who had written upon it.

All this time the Spaniards had continued to publish treatises on the art. In 1585 an excellent compendium was published by Roderick Zamorano; which contributed greatly towards the improvement of the art, particularly in the sea charts. Globes of an improved kind, and of a much larger size than those formerly used, were now constructed, and many improvements were made in other instruments; however the plane chart continued still to be followed, though its errors were frequently complained of.

Methods of removing these errors had indeed been sought after; and Gerard Mercator seems to have been the first who found the true method of doing this so as to answer the purposes of seamen. His method was to represent the parallels both of latitude and longitude by parallel straight lines, but gradually to augment the former as they approached the pole. Thus the rhumbs, which otherwise ought to have been curves, were now also extended into straight lines; and thus a straight line drawn between any two places marked upon the chart would make an angle with the meridians, expressing the rhumb leading from the one to the other. But though, in 1569, Mercator published a universal map constructed in this manner, it does not appear that he was acquainted with the principles on which this proceeded; and it is now generally believed, that the true principles on which the construction of what is called Mercator's chart depends were first discovered by an Englishman, Mr. Edward Wright.

Mr. Wright supposes, but, according to the general opinion, without sufficient grounds, that this enlargement of the degrees of latitude was

known and mentioned by Ptolemy, and that the same thing had also been spoken of by Cortes. The expressions of Ptolemy, alluded to, relate indeed to the proportion between the distances of the parallels and meridians; but instead of proposing any gradual enlargement of the parallels of latitude, in a general chart, he speaks only of particular maps; and advises not to confine a system of such maps to one and the same scale, but to plan them out by a different measure, as occasion might require: only with this precaution, that the degrees of longitude in each should bear some proportion to those of latitude; and this proportion is to be deduced from that which the magnitude of the respective parallels bears to a great circle of the sphere. He adds, that in particular maps, if this proportion be observed with regard to the middle parallel, the inconvenience will not be great, though the meridians should be straight parallels to each other. Here he is said only to mean, that the maps should in some measure represent the figures of the countries for which they are drawn. In this sense Mercator, who drew maps for Ptolemy's tables, understood him; thinking it, however, an improvement not to regulate the meridians by one parallel, but by two; one distant from the northern, the other from the southern extremity of the map, by a fourth part of the whole depth; by which means, in his maps, though the meridians are straight lines, yet they are generally drawn inclining to each other towards the poles. With regard to Cortes, he speaks only of the number of degrees of latitude, and not of the extent of them; nay, he gives express directions that they should all be laid down by equal measurement on a scale of leagues adapted to the map.

For some time after the appearance of Mercator's map, it was not rightly understood, and it was even thought to be entirely useless, if not detrimental. However about 1592 its utility began to be perceived; and seven years after Mr. Wright printed his famous treatise, entitled *The Correction of certain Errors in Navigation*; where he fully explained the reason of extending the length of the parallels of latitude, and the uses of it to navigators. In 1610 a second edition of Mr. Wright's book was published with improvements. An excellent method was proposed of determining the magnitude of the earth; at the same time it was judiciously proposed to make our common measures in some proportion to a degree on its surface, that they might not depend on the uncertain length of a barley corn. Some of his other improvements were, 'The table of latitudes for dividing the meridian computed to minutes; whereas it had only been divided to every tenth minute. He also published a description of an instrument which he calls the sea-rings; and by which the variation of the compass, altitude of the sun, and time of the day, may be determined readily at once in any place, provided the latitude is known. He showed also how to correct the errors arising from the eccentricity of the eye in observing by the cross-staff. He made a total amendment in the tables of the declinations and places of the sun and stars from his own observations, made

with a six foot quadrant, in the years 1594—1597. A sea-quadrant to take altitudes by a forward or backward observation; and likewise with a contrivance for readily finding the latitude by the height of the pole-star, when not upon the meridian. To this edition was subjoined a translation of Zemorano's *Compendium* above mentioned; in which he corrected some mistakes in the original, adding a large table of the variation of the compass observed in very different parts of the world, to show that it was not occasioned by any magnetical pole.

These improvements soon became known abroad. In 1608 a treatise, entitled *Hyponemata Mathematica*, was published by Simon Stevin, for the use of prince Mauriee. In that part relating to navigation the author having treated of sailing on a great circle, and showing how to draw the rhumbs on a globe mechanically, sets down Wright's two tables of latitude and rhumbs, in order to describe these lines more accurately, pretending even to have discovered an error in Wright's table. But all these objections were fully answered by the author himself, who showed that they arose from the gross way of calculating made use of by Stevin.

In 1624 the learned Wellebrod Snell, professor of mathematics at Leyden, published a treatise of navigation on Wright's plan, but somewhat obscurely; and, as he did not particularly mention all the discoveries of Wright, the latter was thought by some to have taken the hint of his discoveries from Snellius. But this supposition was long ago refuted; and Wright enjoys the honor of those discoveries, which is justly his due.

Mr. Wright having shown how to find the place of the ship on his chart, observed that the same might be performed more accurately by circulation; but considering, as he says, that the latitudes, and especially the courses at sea, could not be determined so precisely, he forebore setting down particular examples; as the mariner may be allowed to save himself this trouble, and only mark out upon his chart the ship's way after the manner then usually practised. However, in 1614, Mr. Raphe Handson, among his nautical questions subjoined to a translation of Pitiscus's *Trigonometry*, solved very distinctly every case of navigation, by applying arithmetical calculations to Wright's table of latitudes, or of meridional parts, as it has since been called.

Though the method discovered by Wright for finding the change of longitude by a ship sailing on a rhumb is the proper way of performing it, Handson proposes two ways of approximation to it without the assistance of Wright's division of the meridian line. The first was computed by the arithmetical mean between the cosines of both latitudes; the other by the same mean between the secants, as an alternate, when Wright's book was not at hand; though this latter is farther from the truth than the first. By the same calculations, also, he showed how much each of these compendiums deviates from the truth, and also how widely the computations on the erroneous principles of the plane chart differ from them all. The method, however, generally used by our sailors is commonly called *Wright's*

middle latitude; which, though it errs more than that by the arithmetical mean between the two cosines, is preferred, on account of its being less opeiose; yet in high latitudes it is more eligible to use that of the arithmetical mean between the logarithmic cosines, equivalent to the geometrical mean between the cosines themselves; a method since proposed by Mr. John Bassat. The computation by the middle latitude will always fall short of the true change of longitude; that by the geometrical mean will always exceed; but that by the arithmetical mean falls short in latitudes above 45° , and exceeds in lesser latitudes. However, none of these methods will differ much from the truth when the change of latitude is small.

About this time logarithms were invented by John Napier, baron of Merchiston in Scotland, and proved of the utmost service to the art of navigation. They were first applied by Mr. Edward Gunter in 1620. He constructed a table of artificial sines and tangents to every minute of the quadrant. These were applied according to Wright's table of meridional parts, and have been found extremely useful in other branches of the mathematics. He contrived, also, a most excellent ruler, commonly called Gunter's scale, on which were inscribed the logarithmic lines for numbers, and the sines and tangents of arches. He also greatly improved the sector for the same purposes. He showed also how to take a back observation by the cross-staff, whereby the error arising from the eccentricity of the eye is avoided. He described, likewise, another instrument of his own invention, called the cross-bow, for taking altitudes of the sun or stars, with some contrivances for more readily deducing the latitude from the observation. The discoveries concerning the logarithms were carried to France in 1624 by Mr. Edmund Wingate, who published two small tracts in that year at Paris. In one of these he taught the use of Gunter's scale; and in the other of the tables of artificial sines and tangents, as modelled according to Napier's last form, erroneously attributed by Wingate to Briggs.

Gunter's ruler was projected into a circular arch by the Rev. William Oughtred in 1633, and its uses fully shown in a pamphlet entitled *The Circles of Proportion*; where, in an appendix, several important points in navigation are ably discussed. It has also been made in the form of a sliding ruler.

The logarithmic tables were first applied to the different cases of sailing by Mr. Thomas Addison, in his treatise entitled *Arithmetical Navigation*, printed in 1625. He also gives two traverse tables, with their uses; the one to quarter points of the compass, the other to degrees. Mr. Henry Gellibrand published his discovery of the changes of the variation of the compass in a small quarto pamphlet, entitled *A Discourse Mathematical on the Variations of the Magnetical Needle*, printed in 1635. This extraordinary phenomenon he found out by comparing the observations made at different times near the same place by Mr. Burrough, Mr. Gunter, and himself, all persons of great skill and experience in these matters. This discovery was likewise

soon known abroad; for F. Athanasius Kircher, in his treatise entitled *Magnes*, first printed at Rome in 1641, informs us, that he had been told it by Mr. John Greaves; and then gives a letter of the famous Marinus Merseannus, containing a very distinct account of the same.

As altitudes of the sun are taken on ship-board by observing his elevation above the visible horizon, to collect thence the sun's true altitude with correctness, Wright observes it to be necessary that the dip of the horizon below the observer's eye should be brought into the account, which cannot be calculated without knowing the magnitude of the earth. Hence he was induced to propose the different methods for finding this; but complains that the most effectual was out of his power to execute; and therefore contented himself with a rude attempt, in some measure sufficient for his purpose; and the dimensions of the earth deduced by him corresponded so well with the usual divisions of the log-line, that as he wrote not an express treatise on navigation, but only for the correcting such errors as prevailed in general practice, the log-line did not fall under his notice.

Mr. Richard Norwood, however, put in execution the method recommended by Mr. Wright as the most perfect for measuring the dimensions of the earth, with the true length of the degrees of a great circle upon it; and, in 1635, he actually measured the distance between London and York; whence, and the summer solstitial altitudes of the sun observed on the meridian at both places, he found a degree on a great circle of the earth to contain 367,196 English feet, equal to 57,300 French fathoms or toises; which is very exact, as appears from many measures that have been made since that time. Of all this Mr. Norwood gave a full account, in his treatise called *The Seaman's Practice*, published in 1637. He there shows the reason why Snell had failed in his attempt; he points out also various uses of his discovery, particularly for correcting the gross errors hitherto committed in the divisions of the log-line. These necessary amendments, however, were little attended to by the sailors, whose obstinacy in adhering to established errors has been complained of by the best writers on navigation; but at length they found their way into practice, and no navigator of any skill now uses the old measure of forty-two feet to a knot. In that treatise also Mr. Norwood describes his own excellent method of setting down and perfecting a sea-reckoning, by using a traverse table; which method he had followed and taught for many years. He shows also how to rectify the course by the variation of the compass being considered; also how to discover currents, and to make proper allowance on their account. This treatise, and another on trigonometry, were continually reprinted, as the principal books for learning scientifically the art of navigation. What he had delivered, especially in the latter concerning the subject, was contracted as a manual for sailors, in a very small piece called his *Epitome*; a useful performance, which has gone through a great number of editions.

No alterations were ever made in the *Seaman's Practice* till the twelfth edition in 1676, when

the following paragraph was inserted in a smaller character: 'About 1672 M. Picart published an account in French, concerning the measure of the earth, a breviate whereof may be seen in the Philosophical Transactions, No. exii.; wherein he concludes 1° to contain 365,184 English feet, nearly agreeing with Mr. Norwood's experiment;' and this advertisement is continued in the subsequent editions as late as 1732. About 1645 Mr. Bond published, in Norwood's Epitome, a very great improvement in Wright's method; it was deduced from the theorem, that these divisions are analogous to the excesses of the logarithmic tangents of half the respective latitudes, augmented by 45° above the logarithm of the radius. This he afterwards explained more fully in the edition of Gunter's works, printed in 1653; where, after observing that the logarithmic tangents from 45° upwards increase in the same manner that the secants added together do; if every half degree be accounted as a whole degree of Mercator's meridional line; his rule for computing the meridional parts belonging to any two latitudes, supposed on the same side of the equator, is to the following effect: 'Take the logarithmic tangent, rejecting the radius, of half each latitude, augmented by 45° ; divide the difference of those numbers by the logarithmic tangent of $45^\circ 30'$, the radius being likewise rejected; and the quotient will be the meridional parts required, expressed in degrees.' This rule is the immediate consequence from the general theorem, that the degrees of latitude bear to 1° (or 60', which in Wright's table stand for the meridional parts of 1°) the same proportion as the logarithmic tangent of half any latitude augmented by 45° and the radius neglected, to the like tangent of half a degree augmented by 45° , with the radius likewise rejected.

But still there was wanting the demonstration of this general theorem, and it was at length supplied by Mr. James Gregory of Aberdeen, in his *Exercitationes Geometricæ*, printed at London in 1668; and it was afterwards more concisely demonstrated, together with a scientific determination of the divisor, by Dr. Halley in the Philosophical Transactions for 1695, No. cccix., from the consideration of the spirals into which the rhumbs are transformed, in the stereographic projection of the sphere upon the plane of the equinoctial; and which is rendered still more simple by Mr. Roger Cotes, in his *Logometria*, first published in the Philosophical Transactions for 1714, No. cccxxxviii. It is added in Gunter's book, that if one-twentieth of this division, which does not sensibly differ from the logarithmic tangent of $45^\circ 1' 30''$ (with the radius subtracted from it), be used, the quotient will exhibit the meridional parts expressed in leagues; and this is the divisor used in Norwood's Epitome. After the same manner the meridional parts will be found in minutes, if the like logarithmic tangent of $45^\circ 1' 30''$, diminished by the radius, be taken; that is, the number used by others being 12,633, when the logarithmic tables consist of eight places of figures besides the index.

In an edition of the Seaman's Calendar, Mr. Bond declared that he had discovered the longi-

tude by having found out the true theory of the magnetic variation; and, to gain credit to his assertion, he foretold that at London, in 1657, there would be no variation of the compass, and from that time it would gradually increase the other way; which happened accordingly. Again, in the Philosophical Transactions for 1668, No. xl., he published a table of the variation for forty-nine years to come. Thus he acquired such reputation, that his treatise, entitled *The Longitude Found*, was, in 1676, published by the special command of Charles II., and approved by many celebrated mathematicians.

It was not long, however, before it met with opposition; and, in 1673, another treatise, entitled *The Longitude not Found*, made its appearance; and, as Mr. Bond's hypothesis did not in any manner answer its author's sanguine expectations, the affair was undertaken by Dr. Halley, who, in 1700, published a general map, with curve lines expressing the paths where the magnetic needle had the same variation; which was received with universal applause. But, as the positions of these curves vary from time to time, they should frequently be corrected by skilful persons; as was done in 1744 and 1756 by Mr. William Mountaine, and Mr. James Dodson, F.R.S. In the Philosophical Transactions for 1690 Dr. Halley also gave a dissertation on the monsoons; containing many very useful observations for such as sail to places subject to these winds.

After the true principles of the art were settled by Wright, Bond, and Norwood, the authors on navigation became so numerous that it would be impossible to enumerate them; and every thing relative to it was settled with an accuracy not only unknown to former ages, but which would have been reckoned utterly impossible. The earth being found to be a spheroid, and not a perfect sphere, with the shortest diameter passing through the poles, Dr. Murdoch published a tract, in 1742, in which he accommodated Wright's sailing to such a figure; and, in the same year, the celebrated Maclaurin gave a rule for determining the meridional parts on a spheroid; and he extended his speculations on the subject farther in his work on Fluxions.

This theoretical refinement has not however in any instance been reduced to practice, as the data for determining the plan of a ship at sea can never be obtained with such precision as would justify a practical man in introducing it as a matter of correction.

Among the latter improvements in the science of navigation the methods of finding the longitude by lunar observations and time-keepers are the principal. To such perfection are these methods now brought, that it has been observed by a gentleman of distinguished nautical skill, whose situation imposes on him the duty of examining the logs of all ships belonging to one of the first trading companies in the world, that the longitudes of ships are often determined more exactly than their latitudes.

We may notice also an important improvement in the method of finding the latitude by two altitudes, and the elapsed time, given by Mr. Middle in his *Treatise on Navigation*, an improvement

which has tended to bring that useful problem into more general use among practical seamen. The method of deducing the longitude from occultations has also been greatly simplified. See **LONGITUDE**.

For the perfection which the lunar method has attained we are chiefly indebted to the late Dr. Maskelyne; and the highest credit is due to the British parliament for the encouragement which they have given to all who have usefully labored in supporting any department of this important branch of knowledge.

At present it may be safely affirmed that no great improvements in the science are to be looked for. The tables of the planetary motions appear nearly adequate to all the wants, and certainly to all the reasonable wishes, of the navigator; though we are happy to understand that professor Airy of Cambridge is engaged in still farther improving them. As an art, navigation may be considered to have nearly reached its limit of perfection; for further refinements in the theory of astronomy will by no means insure a corresponding increase of accuracy in its practical application; for there exists a limit in the size of the instruments which can be managed on shipboard, and in the imperfections of every thing which is to be accomplished by a being of powers so limited as man.

The motion of a ship in the water depends on the action of the wind on its sails, and is regulated by the direction of the helm. There is always a great resistance on the fore part of the ship when in motion, and, when this resistance becomes sufficient to balance the force of the wind on the sails, the motion of the ship is no longer accelerated, but becomes uniform. This maximum velocity depends on the strength of the wind; but as the resistance increases with the velocity, whatever may be the force of the wind, there is a limit to the velocity of the ship; for the sails and ropes can bear but a certain force; and, when the resistance of the water becomes equal to their strength, the velocity cannot be increased, and the tackle gives way.

The direction of a ship's motion depends on the situation of her sails with regard to the wind. The most natural position is when she runs directly before it; but this cannot often be done, from the variable nature of the winds, and the situations of the places to which the ship may be bound. When the wind therefore is unfavorable the sails and rudder must be so placed that the ship's way may make an angle with the direction of the wind.

The ship moves forward under such circumstances because the water resists the side more than the forepart as much as the length of the ship exceeds the breadth; and this proportion is so considerable that the ship moves in the direction in which the resistance is least, and sometimes very swiftly. But if the angle made by the keel, with the direction of the wind, be too acute, the ship cannot be kept in that position; and a barge cannot be kept nearer the direction of the wind than within about $67^{\circ} 30'$, though small sloops may sometimes lie and sail within about 50° . But in such circumstances the velocity of the vessel is greatly retarded, both on

account of the obliquity of her motion, and of what is called her leeway. This is occasioned by the yielding of the water on the leeside of the ship, in consequence of which the vessel moves in a sort of diagonal direction, between the direction of the wind, and that in which it is wished that she should go.

It would be a matter of extreme difficulty to determine from theoretical principles what the leeway in any given case would amount to; as it depends on the strength of the wind, the roughness of the sea, the velocity, the shape, and the trim of the vessel.

When the wind is light the resistance on the lee side bears a great proportion to the strength of the wind, and it therefore yields very little. But the water having once begun to yield will continue to do so for some time, and the leeway will increase till the resistance on the lee side balances the force of the wind on the other, when it will become uniform. The leeway will be less as the velocity of the ship is greater; and in a strong gale, when the ship makes little headway, the leeway will be greatest of all.

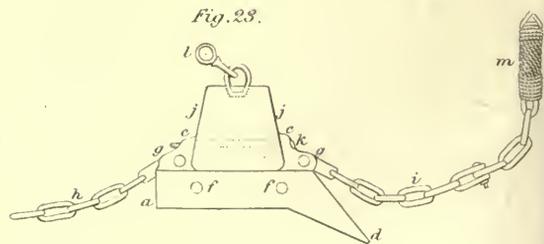
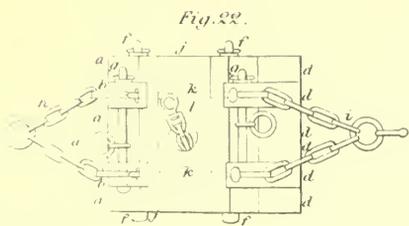
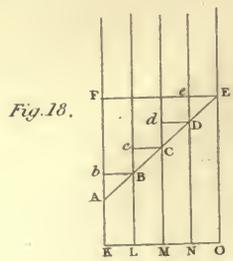
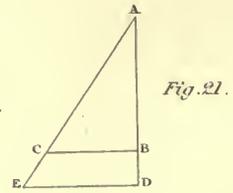
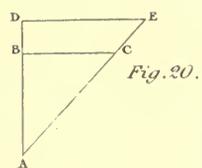
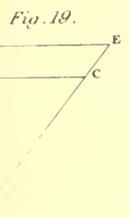
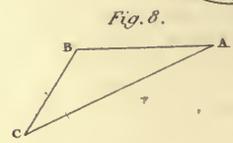
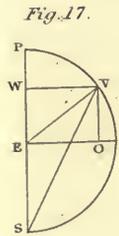
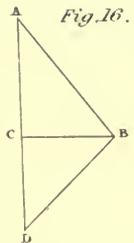
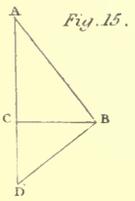
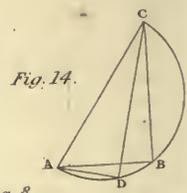
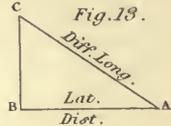
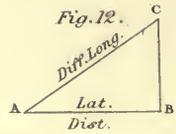
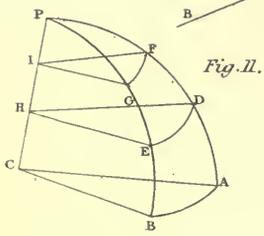
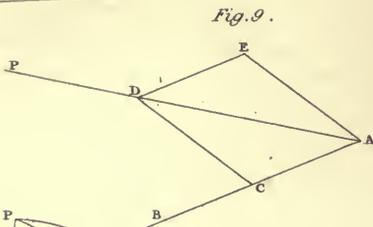
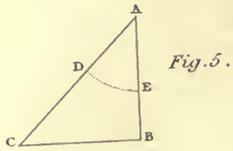
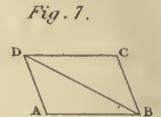
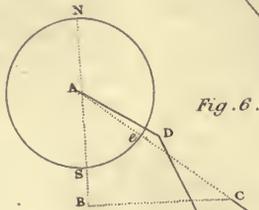
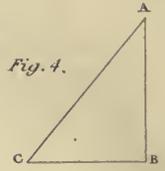
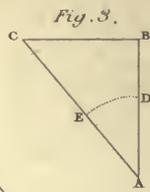
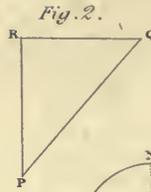
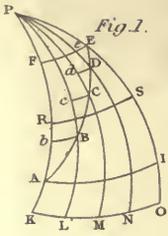
When there is a rough sea, the whole water of the ocean, to a considerable depth, acquires a motion in a particular direction. The rolling waves carry the ship out of her course, and the deviation is in proportion to their velocity and magnitude. From all these causes it arises that there is very great difficulty in determining the actual course of a ship at sea; and it becomes in consequence a matter of the utmost importance to determine her place as often as possible by celestial observations.

In many places of the ocean there are currents which run with considerable velocity. They occasion errors of the same nature as leeway, only that they affect the distance as well as the course. Whenever a current is perceived, its velocity and direction ought to be determined and allowed for.

Another source of embarrassment to the mariner is the continually changing variation of his compass. In few situations the points of that invaluable instrument correspond with what they ought to indicate on the horizon, and even in the same place the variation itself is in a state of variation. The astronomical methods of determining the variation are however both numerous and simple.

But it has recently been discovered that the whole mass of iron in a ship acts on the needle of the compass as one great magnet placed in its vicinity. As the centre of this mass is always in the forepart of the vessel, an ingenious philosopher, Mr. Barlow of Woolwich, conceived that its effect might be counteracted by placing a small mass behind the compass, so near it, and so situated with respect to it, that it might act as a counterbalance, by its great influence, to the general effect of the mass. This happy idea has been put to the test, and found to answer completely the anticipations which were entertained respecting it.

It is of importance to navigators in long voyages to reach their port by the shortest practicable route. The shortest distance between two points on the surface of a sphere is along a great circle intercepted between them. But it is no



easy matter to keep a ship on a great circle, as the only means of guiding her in any particular direction at sea is the compass, by which she is kept on a rhumb line, which, unless the ship is sailing exactly north or south, or, on the equator, exactly east or west, does not coincide with a great circle.

But a small portion of a rhumb line may be conceived to be identical in direction with a great circle; and, if the distance be divided into small portions, the course at each point may readily be computed by spherical trigonometry, and the ship kept, though not exactly on the arc of the great circle on which it is desirable that she should sail, yet sufficiently near it for all practical purposes.

PRINCIPLES OF NAVIGATION.

The earth is nearly a globe of 7916 English miles in diameter, and it revolves on an imaginary line called its axis, from west to east in twenty-four hours; and it is this rotation that causes the apparent diurnal motion of the heavenly bodies from east to west.

That the art of navigation may be successfully practised, it is necessary that the mariner should be furnished with accurate maps of the seas through which he sails, and of the coasts and harbours which he may have occasion to visit; and be well acquainted both with the use of all instruments necessary for determining the ship's place from celestial observations, and the methods of deducing the desired conclusions from observations when taken.

Great circles passing through the poles of the earth are called meridians, and that great circle which is equidistant from both poles is called the equator, the equinoctial, or the line; and less circles, parallel to the equator, are called parallels of latitude. The meridian passing over any place is called the meridian of that place, and the portion of a meridian between any place and the equator is called the latitude of that place, and it is called north or south latitude, according as the place is north or south of the equator.

The difference of latitude between two places is an arc of the meridian intercepted between their parallels of latitude. Hence, when the latitudes of two places are both north or both south, their difference is the difference of latitude; but when one is north and the other south their sum is the difference of latitude.

It is customary to call the meridian of some remarkable place or observatory the first meridian; and the angle included between that first meridian, and the meridian of any other place is called the longitude of that place, or of any place under the same meridian. These polar angles are measured by the arcs which they intercept on the equator; and hence in navigation the longitude of a place may also be said to be, or to be measured by, the arc of the equator intercepted between the first meridian and the meridian of that place; and it is considered as east or west, according as the place is eastward or westward of the first meridian. Englishmen refer to the meridian of Greenwich observatory as the first meridian; French to that of the

observatory at Paris; Spaniards to that of Cadiz; but the Danes to that of Greenwich.

The difference of longitude between two places is the angle at the pole contained by the meridians of those places, in the arcs of the equator which they intercept; and hence when the longitudes are of the same denomination, their difference, but when of contrary denominations their sum is the difference of longitude. A curve on the globe which cuts every meridian which it meets on the same angle is called a loxodromic or rhumb line; a ship at sea being guided by the compass is steered upon a curve of this kind. The angle which a rhumb line makes with the meridian is called the course between any two places through which that rhumb passes; and the arc of a rhumb line between two places is called their nautical distance, to distinguish it from the least distance, which is the arc of a great circle passing through both places.

If a ship be steered due north or due south her distance and difference of latitude are the same.

Meridional distance is an arc of the parallel of latitude arrived at, intercepted between the meridian left, and that arrived at; and departure is the sum of all the intermediate meridional distances, computed on the supposition that the distance is divided into indefinitely small equal parts.

If a ship sail due east or west she will either sail on the equator or on some parallel of latitude, and her meridian distance, departure, and distance sailed, will all be the same.

The bearing between two places, or the bearing from one place to another, on the same parallel of latitude is east or west, on the same meridian north or south, and in all other situations on an oblique rhumb line, continually approaching the pole.

OF PLANE SAILING.

Proposition 1.—In sailing on a rhumb line the differences of latitude are exactly proportional to the distances sailed.

For in Plate I. fig. 1, if PK, PL, PM, PN, and PO, be meridians, AE a rhumb line passing through A and E, and cutting every meridian which it meets at the same angle, FE and AI parallels of latitude; and if AB, BC, CD, &c., portions of the rhumb line, be considered to be equal, indefinitely small, and their number indefinitely great, the triangles ABb , BCc , &c., may be considered as indefinitely small identical plane triangles; whence AE will be the same multiple of AB that the sum of Ab , Bc , Cd , &c., is of Bb . But the sum of Ab , Bc , &c., is equal to the whole difference of latitude AF or EI. Again, by reasoning in a similar way, we find that AE is the same multiple of AB that the sum of Bc , Cc , &c., is of Bb ; and the sum of Bb , Cc , &c., is what has been denominated the definition.

Hence, as ABb is a right-angled plane triangle, a straight line equal to the curve AE, and one equal to the arc of the meridian AF, will form the base and perpendicular of a right-angled plane triangle as PQR, fig. 2, in which PQ will represent AE; PR, AF and RQ,

the departure or the sum of Bb, Cc, &c., and the angle P will represent the angle EAF, the course.

While the course remains the same it is evident the departure is greater than the meridional distance FE (see fig. 1) and less than AI, but nearly equal to RS, the meridional distance in the middle latitude, between the latitude sailed from, and the latitude arrived at. When the places are near the equator, or when their parallels are not very distant from each other, the nautical conclusions drawn from a supposition that the departure is equal to the meridional distance in the middle latitude, are very nearly correct; but in high latitudes, or in a long run, when the course is not near some of the cardinal points, this principle gives results deviating more from the truth than is desirable. If a ship sail on several courses she makes a less departure near the pole, and a greater one near the equator, than if she sail on a direct course; but in such small distances as a day's run, the difference is almost insensible.

In problems solved on the principles of this proposition the conclusions are the same as if the earth were a plane, and all the meridians parallel to each other; and it is hence that it is called plane sailing, whose principles are therefore correct as far as difference of latitude, course, distance, and departure are concerned.

Example.—1. If a ship sail from Oporto N. W. $\frac{1}{4}$ W. 315 miles, required her departure, and the latitude which she has arrived at?

By construction.—Draw the vertical line of A B fig. 3, to represent the meridian of Oporto; with the centre A, and chord of 60°, describe the arc DE, on which from the line of rhumbs longitude of DE = 4 $\frac{1}{4}$ points, the given course. Draw AC, and make it equal to 315 from any convenient scale of equal parts. From C draw CB perpendicular to AB; then AB and BC will represent the difference of latitude and departure, and, if measured on the scale from which AC was taken, it will be found that AB = 211.6 and BC = 233.4 miles, and the departure is westerly as the course is westerly.

By Gunter's scale.—Extend on the line of sine rhumbs from 8 points to 4 $\frac{1}{4}$, and that extent applied from 315 on the line of numbers will reach towards the left to 233.4, the departure. Again, extend on the line of sine rhumbs from 8 points to 3 $\frac{3}{4}$ points, the complement of the course; and that extent will reach on the line of numbers from the distance 315, to the difference of latitude 211.6

By inspection in a table of difference of latitudes and departures.—Seek the given course in the table, and opposite the distance will be found the difference of latitude and departure. If the distance is beyond the limits of the table, seek the difference of latitude and departure corresponding to the several parts of it, and their sums will be the whole difference of latitude and departure.

In the present example, with course 4 $\frac{1}{4}$ points and dist. 300, we have diff. lat. 201.5, dep. 222.3; with course 4 $\frac{1}{4}$ points and dist. 15, we have diff. lat. 10.1, and dep. 11.1; hence the whole diff. lat. is 211.6, and dep. 233.4, as before.

By computation.—As rad. : dist. AC, 315 :: cos. A, the course 4 $\frac{1}{4}$ points : AB the diff. lat. = 211.6,

As rad. : dist. AC :: sin. course : BC, the dep. 211.6.

2. A ship from lat. 36° 12' N. sails south-westward till she arrives in lat. 35° 1' N., having made seventy-six miles of departure; required her course and distance?

Lat. left 36° 12' N.
Lat. in 35° 1' N.

Diff. lat. 1 11 = 71 miles S.

By construction.—Draw AB and BC, fig. 4, at right angles to each other. Make AB = 71, the difference of latitude, and BC = 76, the departure, then AC measured on the same scale will be found = 104, the required distance; and the angle A measured either by a protractor, or with the aid of a line of chords, will be found nearly 47°, the required course.

By Gunter's scale.—Extend on the line of numbers from 71 to 76, that extent will reach on the line of tangents from radius, or tan. 45° to 47°, the course. Extend from the complement of this course to radius on the line of sines, and the extent will reach from the diff. lat. 71, towards the right to the distance 104 on the line of numbers.

By inspection.—Seek in a table of difference of latitude and departure till 76 dep. and 71 diff. lat. correspond in their proper columns, and the corresponding course and distance will be found as above.

By calculation.

As diff. lat 71 1.851258
: depart. 76 1.880814
:: rad. 10.000000

True course 46° 57' 10.029556

As rad. 10.000000
: diff. lat. 1.851258
:: sect. course 46° 57' 10.165811

: dist. 104 2.017069

3. If a ship sail from the Lizard lat. 49° 58' N., S. S. W. $\frac{3}{4}$ W. till she is in lat. 48° 13' N., required her distance and departure?

Lat. left 49° 58' N.
Lat. in 48° 13'

Diff. lat. 1 45 = 105.

By construction.—Make AB = 105, fig. 5, and with centre A, the chord of 60°, describe the arc DE, on which lay off the chord of 2 $\frac{3}{4}$ points, the given course, from the line of rhumbs; draw AE, and at A erect the perpendicular BC; then AE will be the required distance, and BC the departure; which will be found to be 122.5 and 63 respectively.

By calculation.

As rad. 10.000000
: A B 105 2.021189
:: sect. course 2 $\frac{3}{4}$ points 10.066650

: Diff. AC 122.5 2.087839

As rad. 10.000000
: A B 2.021189
:: True course 9.777700

: Dep. BC, 63 1.798889

ON TRAVERSE SAILING.

When a ship, either from contrary winds or any other cause, is obliged to sail on different courses, the crooked line which she describes is called a traverse; and the method of finding a single course and distance which would have brought the ship to the same place is called resolving a traverse.

A traverse is resolved by finding the difference of latitude and departure corresponding to each separate course and distance, and entering them in a table of which the form will be found below; putting the difference of latitude in the column marked S when the ship steers southward, but in the column marked N when she steers northward. And, when the course is easterly or westerly, the departure is entered on the column headed E or W accordingly.

For example, if the course is S. W. $\frac{1}{2}$ W., the difference of latitude is entered under S, and the departure under W; if the course is N. N. W., the difference of latitude is entered under N, and the departure under W; if the course is E. $\frac{1}{2}$ N., the difference of latitude is entered under N and the departure under E. Then the difference between the sum of the numbers under N and the sum of those under S is the whole difference of latitude, and of the same name with the greater sum; and the difference between the sum of the numbers under E and the sum of those under W is the whole departure, and of the same denomination as the greater.

Having thus got the whole difference of latitude and departure which the ship has made, her latitude in is at once known; and her course and distance may be found, as in the second of the preceding examples.

Example 1.—If a ship sail from Halifax, lat. $44^{\circ} 44' N.$, E. S. E. 18, S. S. E. 24, S. by W. 17, S. E. $\frac{3}{4}$ E. 23, N. E. by N. 12, N. N. E. $\frac{1}{4}$ E. 16, and N. W. $\frac{1}{2}$ W. 28 miles, required her latitude in, and course and distance made good?

TRAVERSE TABLE.

Courses.	Dist.	Diff. Lat.		Departure.	
		N.	S.	E.	W.
E. S. E.	18		6.9	16.6	
S. S. E.	24		22.2	9.2	
S. by W.	17		16.7		3.3
S. E. $\frac{3}{4}$ E.	23		13.7	18.5	
N. E. by N.	12	10.0		6.7	
N. N. E. $\frac{1}{4}$ E.	16	14.5		6.8	
N. W. $\frac{1}{2}$ W.	28	17.8			21.6
		42.3	59.5	57.8	24.9
			42.3	24.9	
	Diff. Lat. S.	17 2		32.9	Dep. E.

Lat. left, $44^{\circ} 44' N.$

Diff. lat. . 17 S.

Lat. in . $44^{\circ} 27' N.$

To find the course and distance by calculation :—

As diff. lat. 17.2 . . . 1.235528
 : Departure, 32.9 . . . 1.517196
 :: Rad. . . . 10.000000
 : True course, $62^{\circ} 24' E.$. . . 10.281668

As rad. . . . 10.000000
 : Diff. lat. . . . 1.235528
 :: Sect. course . . . 10.334141

: Distance, 37.12 miles . . . 1.569669

By inspection.—With 32.9 in column departure, and 17.2 in column different latitude, in a table of different latitude and departure, the corresponding course is about $62\frac{1}{2}^{\circ}$ and the distance 37.

By Gunter's scale.—Extend from 17.2 to 32.9 on the line of numbers, and the extent will reach from radius or 45° , on the tangent line to $62\frac{1}{2}^{\circ}$ the course. Extend from the complement of this course to radius on the line of sines, and the extent will reach from the difference of latitude 17.2 on the line of numbers towards the right, to 37, the distance.

By construction.—Let A be the place sailed from, and draw the vertical line N A S B (fig. 6) to represent the meridian. About A as a centre, with the chord of 60° , describe a circle cutting A B in N and S; then N and S will represent the north and south points of the compass.

Draw A D, making an angle of six points with the meridian, from the south towards the east, and make A D = 18 from a scale of equal parts. Having laid off two points from S towards the east, through D draw the line D E parallel to the line joining that point of the arc to the centre, and make D E = 24 from the same scale of equal parts. Then E will be the place of the ship at the end of the second course. Proceed in the same manner with each of the subsequent courses, drawing E F, F G, &c., parallel respectively to the lines drawn from it, which indicate the respective courses. From C drop C B, a perpendicular on A B, then A C will be the distance, A B the difference of latitude, B C the departure, and the angle A B C the course. These lines being measured on the same scale from which the distances are laid off we shall have A C 37, A B 17, and B C 33; and the angle B A C, measured by the arc S e will be found to be about $62\frac{1}{2}^{\circ}$.

Example 2.—If a ship sail from Oporto N. N. W. $\frac{1}{2}$ W 36, N. by E $\frac{1}{4}$ E. 22, W. by S. 14, W. N. W. $\frac{3}{4}$ W. 40, and N. N. E. 18 miles, required her latitude in, and course and distance made good?

TRAVERSE TABLE.

Courses.	Dist.	D ff. Lat.		Departure.	
		N.	S.	E.	W.
N. N. W. $\frac{1}{2}$ W.	36	31.8			17.0
N. by E. $\frac{1}{4}$ E.	22	21.3		5.3	
W. by S.	14		2.7		13.7
W. N. W. $\frac{1}{2}$ W.	40	11.6			38.3
N. N. E.	18	16.6		6.9	
		81.3		12.2	69.0
		2.7			12.2
Diff. lat. N.	78.6			12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3
				5.3	21.3
				2.7	13.7
				17.0	31.8
				12.2	69.0
				6.9	38.3

This angle allowed to the right of E. N. E., the opposite point to that steered by the ship, shows that the setting of the current is S. 75° 10' E. With respect to its drift, we have $\sin. ABR 37^\circ 20' : \sin. BAR 2\frac{1}{2} \text{ points} :: AR : BR = 15.55$, the drift in five hours; whence the hourly drift is 3.11 miles.

ON PLYING TO WINDWARD.

When the wind is adverse, a ship can only proceed towards her port by tacking; and it then becomes a question how far she ought to steer on each tack. Questions of this kind are exceedingly simple; for, if the ship is meant to reach her port in two boards, she must steer upon one tack till the bearing of the port is the same as the course on the other tack. The computation is made by the following proportion, viz. As the sine of the angle included between the two courses is to the distance to be sailed, so is the sine of the angle included between the bearing of the port, and the course on either tack, to the distance to be sailed on the other tack.

It may be observed that, whatever number of boards a ship may make, the sum of the distances on each tack will be the same as if the port had been reached on two boards only.

Example.—A ship can lie within five points of the wind, and is bound to a port lying S. $\frac{1}{2}$ E. eighteen miles, the wind being at south-east; required her course and distance on each tack, to reach her port close hauled in two boards?

Five points to the right of south-east is south by west, the course on the larboard tack; and five points to the left of south-east is east by north, the course on the starboard tack. The angle included between these two courses is ten points, the angle between the bearing of the port and the course on the larboard tack is one point and a half, and that included between the bearing of the port and the course on the starboard tack is eight points and half. Hence—

Sine 10 points	9.965615
: 18 miles	1.255273
:: $\sin. 1\frac{1}{2}$	9.462824

10.718097

: Dist. on starboard tack 5.656

0.752482

Sine 10 points	9.965615
: 18 miles	1.255273
:: $\sin. 8\frac{1}{2}$ points	9.997904

11.253177

: Dist. on larboard tack, 19.39

1.287562

ON PARALLEL SAILING.

If P A, P B (fig. 11) be two meridians, A B their difference of longitude, or the arc of the equator, which they intercept; P C the radius, which is the common section of the two meridians; A C B the plane of the equator; and D H E, F I G, the planes of any two parallels of latitude of which the points, corresponding to the difference of longitude A B, are D E and F G respectively. Then the angles F I G, D H E,

and A B C, being equal, G F, D E, and A B, are like parts of the circles to which they belong.

Hence D E : B B : D H : A C. But D H is the sine of D or the cosine of A D, the latitudes of the parallel E D; hence the cosine of any latitude is to radius as any portion of a parallel in that latitude is to the corresponding arc of the equator.

Now in a plane right angled triangle, the base is to the hypotenuse as the cosine of the acute angle at the base is to radius; therefore if the angle at the base of a right angled plane triangle be made equal to any latitude, and the base equal to any position of the parallel in that latitude, the hypotenuse will be equal to the difference of longitude corresponding to the given arc of the parallel.

Similarly we have D H : F I :: D E : F G; that is similar arcs of different parallels are to each other as the cosines of their latitudes. Therefore if two right angled plane triangles have for a common hypotenuse the difference of longitude between two meridians, and the angles at the bases of the triangles be equal to any given latitudes; their bases will represent the arcs of the parallels which respectively correspond in those latitudes to the difference of longitude.

Example 1.—A ship in lat. 36° 56' N. long. 20° 17' W. is bound to St. Mary's, in the same latitude, and in long. 25° 5', what distance must she run to reach the island?

Long. ship,	20° 17' W.
Long. St. Mary's,	26° 5' W.

Diff. long. 4 48 — 288 miles W.

By construction.—Draw the base line A B, fig. 12 and make the angle A = 36° 56', the given latitude; make A C = 28' the diff. of long. and from C drop C B a perpendicular on A B, then A B, measured on the scale from what A C is laid off, will be 230, the required distance.

By inspection.—Take the latitude, which is nearly 37°, as a course, and A C 288 as a distance on a traverse table, and in the column of latitude will be found A B 230.

By calculation.

As radius	10.000000
: A B 288	2.459392
:: $\cos. \text{lat. } 36^\circ 56'$	9.902729
: dist. 230.2	2.362121

Example 2.—If a ship sail W. from Cape Finisterre, lat. 42° 54' N., long. 9° 16' W., 196 miles, required her longitude?

By construction.—Make the angle A = 42° 54', fig. 13, and A B = 196; let the perpendicular B C meet A E in C, then A C will be found to be 268, the difference of longitude.

By inspection.—To the angle A, nearly 43°, as a course in the traverse table, and A B 196 in the lat. column, A C 268 corresponds in the dist. column.

By Gunter's scale.—Extend from 47° 6', the complement of the latitude, to radius on the line of sines, and that extent will reach from 196 the meridian distance, or the line of numbers, towards the right, to 268, the difference of longitude.

By calculation.

Rad. 10·000000
 : sect. lat. 42° 54' 10·135402
 :: AB 2·292256

AC 267·7 2·427658
 Long. Cape Finisterre 9° 16' W. 9° 16' W.
 Diff. long. 268 4 28 W.

Long. in 13 44 W.

Example 3.—If a ship sail E. 126 miles from the North Cape in Lapland, and then due N. till she arrives in lat. 73° 26' N., how far must she sail W. to reach the meridian of the North Cape ?

By construction.—Make AB = 126, fig. 14, the given distance sailed E. from the North Cape, and the angle BAC = 71° 10', the latitude of the North Cape; and draw BC perpendicular to AB; then AC will be the diff. long. On AC describe a semicircle, and from A draw AD, making the angle CAD = 73° 26', the latitude in which the ship sailed W., meeting the semicircular arc in D, then AD will be the required distance, and it will be found to be 111.

By inspection.—In a traverse table with the angle BAC, nearly 71°, as a course, and AB 126 in the lat. column, AC the diff. long., will be found = 387, nearly on the distance column. Then, with the angle CAD, nearly 73½° as a course, and 387 in the dist. column, DA, the required distance, will be found nearly = 111.

Note.—In using a traverse table, for this or any other purpose, if the given numbers, representing the lines, are too great to be found in their respective columns, any convenient parts of those numbers may be taken, and the results from the table multiplied by the corresponding numbers.

By Gunter's scale.—Extend from 15° 50', the complement of the latitude of the North Cape, to 16° 34', the complement of the other given latitude on the line of sines, and that extent will reach in the same direction from 126 to 111, the required distance on the line of numbers.

By calculation.

As cos. BAC 71° 10' 9·508956
 : cos. DAC 73 26 9·455044
 :: AB 126 2·100370

11·555414

: AD, req. dist. 111° 3' 2·046458

ON MIDDLE LATITUDE SAILING.

To explain the principles of middle latitude sailing we shall refer to the figure which has been given to illustrate the elementary principles of plane sailing. In that figure the equal elementary parts of the departure Bb, Cc, Dd, &c., are severally less than the corresponding parts of the parallel AI, but greater than those which correspond to them on the parallel FE.

But, if RS be the arc of the middle parallel between FE and AI, the elementary parts of the departure on one side of it will exceed the corresponding parts of that line, by nearly as much as the elementary part of the departure on the other side of RS are less than the corresponding parts of that line. Hence the meridian distance in the middle latitude is nearly equal to the departure as computed by plane sailing.

Therefore, if the angle at the base of a plane triangle be taken equal to the middle latitude, and the base equal to the departure, the hypothenuse will represent the difference of longitude nearly, not exactly; for though in places near the equator, and in an ordinary day's run in any situation, except in very high latitudes, the meridian distance in the middle latitude will not differ much from the departure, they are never exactly equal. To exemplify, in a practical way, these theoretical considerations, let AE, in the figure last referred to, be represented by DB in fig. 15, AF in that figure by DC in this, then the angle BCD will be a right angle, and BC the departure will be correctly equal to the sum of Bb, Cc, &c., and nearly equal to RS, the meridian distance in the middle latitude. If, therefore, in the right angled triangle BCA, the angle CBA be made equal to the middle latitude, or to the latitude of the parallel RS, then AB the hypothenuse will be nearly equal to the difference of longitude. If, therefore, in these two connected right angled triangles, DC be the difference of latitude, BD the nautical distance, and CBA the middle latitude; then CDB will be the course, CB the departure, or the meridian distance in the middle latitude nearly, and AB will be nearly equal to the difference of longitude.

The solution of the different problems in navigation are thus in middle latitude reduced to the computation of the different parts of two right angled plane triangles, as DCB, BCA, having the meridian distance in the middle latitude for a common side, and forming together one triangle, as ADB; the different parts of those triangles may be derived from each other, either trigonometrically or otherwise. But it will be convenient to deduce one or two useful practical relations among the parts of those triangles.

1st. In the triangle ABD; sin. A : BD :: sin. D : AB; or cos. ABC : BD :: sin. D : AB; that is, cos. mid. lat. : dist. :: sin. course : diff. long.

2d. DC · tan. BDC = BA · cos. CBA; being each = CB · R. Hence DC : BA :: cos. CBA : tan. BDC; that is, diff. lat. : diff. long. :: cos. mid. lat. : tan. course. Two propositions which may be varied according to the data that are given.

Example 1.—What is the course and distance from the east end of St. Michael's, Azores, to the Start ?

Lat. of Start 50° 13' N. . . . Long. 3° 38', W.
 Lat. of St. Michael's 37 49 N. . . . 25 11, W.

Diff. lat. 12 24 = 744 miles. Diff. long. 21 33 = 1293 miles.

2) 88 2 sum of lats.

Mid. lat. 44 1

By construction.—Draw the meridian line AD, fig. 16, and at the point A make the angle BAC equal to $45^{\circ} 59'$, the complement of the middle latitude. From A on AB lay off 1293 miles, the diff. long; and from B let fall the perpendicular BC on AD; then BC will be the meridian distance, or the departure nearly. Produce AC, till CD = 744 miles, the diff. lat., and join BD, which will be the distance, and the angle D will be the course. Hence DB, measured on a line of equal parts, will be found = 1179, and the angle D the course = 51° ; or the true course is N. 51° E. dist. 1179 miles.

By inspection.—With the mid. lat. 44° as a course, and diff. long. 1293 miles as a distance, the dep. is found in the lat. column = 930 miles. Then with diff. lat. 744 miles, and dep. 930 miles, in their proper columns, the course is found to be about N. $51\frac{1}{2}^{\circ}$ E., and dist. 1195 miles.

By Gunter's Scale.—Extend on the line of sines from radius to 46° , the co-middle latitude, and the extent will reach from the difference of longitude 1293 miles, to the dep. of 930 miles on the line of numbers. Extend from this dep. to the difference of latitude 744 miles on the line of numbers, and that extent will reach from radius, or 45° to the course $51\frac{1}{2}$, on the line of tangents. Extend again from radius to the complement of the course, on the line of sines, and the extent will reach from the difference of latitude 744, to the distance 1195 on the line of sines.

By calculation.

As diff. lat. 744	2-871573
: diff. long. 1293	3-111598
:: cos. mid. lat. $44^{\circ} 1'$	9-856812
	12-968410
: true course N. $51^{\circ} 20'$ E.	10-096837
As rad.	10-000000
: diff. lat. 744	2-871573
:: sect. course $51^{\circ} 20'$	10-204267
	3-075840
: dist. 1191 miles	3-075840

Example 2. If a ship sail from Cape Race S.S.E. $\frac{3}{4}$ E. 216 miles; required her latitude and longitude?

By inspection.—With course $2\frac{3}{4}$ points, and distance 216, the difference of latitude is found to be $185^{\circ} 3'$ and dep. 111 miles. Hence $3^{\circ} 5'$ subtracted from $46^{\circ} 40'$ the latitude of Cape Race, leaves $43^{\circ} 35'$ N. for the latitude in; the middle latitude between which and that of Cape Race is $45^{\circ} 7'$. Then with 45° the middle latitude as a course, and dep. 111, in latitude column, the difference of longitude is found in the distance column = 157 miles = $2^{\circ} 37'$, which, subtracted from $53^{\circ} 3'$, the longitude of Cape Race, leaves $50^{\circ} 26'$, W., for the longitude in.

By calculation.

As rad.	10-000000
: dist. 216	2-334454
:: cos. course $2\frac{3}{4}$ points	9-933350
	2-678804
: diff. lat. $185^{\circ} 3'$ miles	2-678804

Therefore in lat. $1'$, $1'$ of the meridian = sect. $1'$ in the projection.
 In lat. $2'$, $1'$ of the meridian = sect. $2'$ in the projection.
 In lat. $3'$, $1'$ of the meridian = sect. $3'$ in the projection, &c.

Lat. left	46° 40' N.
Diff. lat.	3 5 S.
	43 35 N.
Lat. in	43 35 N.
	2) 90 15 sum lats.
	45 7 mid. lat.

As cos. mid. lat. $45^{\circ} 7'$	9-848599
: sin. course $2\frac{3}{4}$ points	9-711050
:: dist 216	2-334454
	12-045504

Diff. long. 157.4 miles 2-196905

Long. left	53° 3' W.
Diff. long.	2 37 E.
	50 26 W.
Long. in	50 26 W.

ON MERCATOR'S SAILING.

Mercator's sailing is the art of applying, on a plane surface, the distance which a ship goes from a given place on a given course so that her place shall be determined truly both in latitude and longitude. In this method the globe is conceived to be so projected on a plane that the meridians are parallel lines, and the elementary parts of the meridians and parallels bear in all latitudes the same proportion to each other that they do on the globe.

Now as the meridians are all great circles, and the parallels less circles of the globe, it is evident that, except at the equator, no given portion of a meridian can be equal to a like portion of its parallel; the parts of the parallels diminishing as they approach the poles.

In Mercator's projection the meridians being parallel to each other their difference in all parallels is the same as their difference of longitude. Therefore as the parallels, which are less than the equator, are in this projection made equal to it, they are all in the projection increased beyond their magnitudes on the globe.

We have already seen, from the principles of parallel sailing, that l being any latitude p any portion of a parallel in that latitude, and e the corresponding portion of the equator,

$$\cos. l : \text{rad. or rad. sect. } l :: p : e$$

Now p and e being equal in Mercator's projection, we have rad. : sect. lat. :: an elementary portion of the meridian; the length of that elementary portion in Mercator's projection. Or taking radius as unity, and considering l' as the elementary part of the meridian, we have $1 : \text{sect. lat.} :: 1' ;$ the length of $1'$ in the projection.

Whence to radius unity, the length of $1'$ in Mercator's projection of the globe in any latitude is equal to the natural secant of that latitude.

And consequently sect. 1' + sect. 2' + sect. 3' = the distance in the projection of the third minute of the meridian from the equator; and this sum arranged in a table for every degree and minute is called a table of meridional parts; and it is in this manner that the table was originally computed. Of course, the smaller the portion of the meridian that is taken as the elementary portion the more exactly will the lengths of the parts in the projection be determined. But the results of the computations having 1' and 1" respectively for their bases, would not, in the latitude of 70°, differ much more than half a minute in the length of the whole projected arc.

We shall, however, add two other methods of computing a table of meridional parts.

First method.—It is well known that *a* being any arc, radius unity, the secant of that arc will be

$$1 + \frac{a^2}{2} + \frac{5a^4}{24} + \frac{61a^6}{720} + \frac{277a^8}{8064} + \frac{50521a^{10}}{3628800} \&c.$$

This being multiplied by *a*, and the fluent taken, we have the sum of the secants contained in *a* equal to

$$a + \frac{a^3}{6} + \frac{a^5}{24} + \frac{61a^7}{5040} + \frac{277a^9}{72576} + \frac{50521a^{11}}{3991680} \&c.$$

Example.—Let it be required to find the meridional parts corresponding to 5° the length of an arc of one minute to radius unity, being .000290888208665, &c. First, 5° × 60 × .000290888208665 = .087266462599, &c., = *a*, the length of the arc of 5'.

$$\begin{array}{r} a = + .087266462599 \\ \frac{a^3}{6} = \quad \quad \quad 110762019 \\ \frac{a^5}{24} = \quad \quad \quad 210875 \\ \frac{61a^7}{5040} = \quad \quad \quad 466 \\ \hline a + \frac{a^3}{6} + \frac{a^5}{24} + \frac{61a^7}{5040} = .087377435959 \end{array}$$

This result, divided by the above stated length of an arc of one minute, gives 300·381498, for the meridional parts of 5°, which is correct to the last place of decimals. In the same way the meridional parts of any other arc may be computed.

Second method.—Let P, fig. 17, be the pole, EQ a portion of the equator, QV the latitude, OV its sine, and OE = VW its cosine, and EV the radius of the sphere. Let *x* = the angular measure of QV, or its length on the globe, *m* its length on the Mercator's chart, or the meridional parts of *x*; *y* = OV or EW the sine of *x*, and *r* = EV the radius of the sphere. Then EO = $\sqrt{r^2 - y^2}$ = WV, and $\sqrt{r^2 - y^2} : r :: x : m$, from the principle of the projection,

hence $m = \frac{r \cdot x}{\sqrt{r^2 - y^2}}$. But $\sqrt{r^2 - y^2} : r :: y : x$; therefore $x = \frac{r \cdot y}{\sqrt{r^2 - y^2}}$. Substituting this value of *x* in the previously found value of *m*, we have $m = \frac{r^2 \cdot y}{r^2 - y^2}$, an expression whose fluent gives $m = r \times 2.302585$, &c., × log. $\frac{r+y}{r-y}$ + the correction.

But in the plane triangle VVVS we have VW : rad. :: WS : cotan. WSV, or $\sqrt{r^2 - y^2} : r :: r + y : r \sqrt{\frac{r+y}{r-y}}$, the cotangent of WSV, measured by half the arc PV, the complement of the latitude. Hence we have $m = r \times 2.302585$, &c., × log. $\frac{r}{\cot. \frac{1}{2} \text{ compl. lat.}}$

+ the correction. And as when *m* = 0, the cotangent of half the complement of the latitude = *r*, the correction is nothing; therefore $m = r \times 2.2032585$, &c., × log. $\frac{r}{\cot. \frac{1}{2} \text{ comp. lat.}}$

= 2.302585, &c., log. $\frac{r}{\tan. \frac{1}{2} \text{ comp. lat.}}$. But, the tables of meridional parts being expressed in geographical miles, the radius of the sphere must also be expressed in geographical miles, of which it is equal to 3437.74677. Therefore we have

$$m = 7915.7044679 \times \log. \frac{r}{\tan. \frac{1}{2} \text{ comp. lat.}}$$

an expression in which $\tan. \frac{1}{2} \text{ comp. lat.}$ is to be taken as belonging to a table computed to radius *r*.

Example.—Let it be required to find the meridional parts of 5°.

Half the complement of 5° is 42° 30'.
 Log. rad. = 10'
 Tan. 42° 30' = 9.9620524617
 —————
 .0379475383

This multiplied by 7915.7044679 gives 300·381498, agreeing with the result already obtained by another method.

As in this projection the meridians are parallel straight lines, the rhumb lines, which cut the meridians at equal angles on the globe, will be straight lines cutting the projected meridians at the same angles in the projection; and the distance between any two places on the globe will be to the projected distance as the difference of latitude of the places on the globe is to the projected or meridional difference of latitude; and the difference of latitude on the globe will be to the departure as the projected or meridional difference of latitude is to the difference of longitude.

For let fig. 18 be the Mercator's projection of that explanatory of the principles of plane sailing, fig. 1. plate I., the letters in this corresponding with the same letters in the other, without dashes. Then all the elementary triangles *AbB*, *BcC*, &c., in that figure are respectively identical, and by the nature of the projection they are also similar to the corresponding triangles *A'B'B'*, *B'C'C'*, &c., in this figure, and as the angles and sides of the elementary triangles *AbB*, *BcC*, &c., may be collectively represented by the angles and sides of a similar right angled plane triangle, whose perpendicular is equal to *AF*, hypotenuse to *AE*, and base to *bB + Cc*, &c.; therefore the sides and angles of the similar projected triangles *A'B'B'*, *B'C'C'*, &c., may also be collectively represented by a right angled plane triangle; having *A'F'*, the projected difference of latitude, for its perpendicular, *F'E'* or *B'B' + C'C'*, &c., the difference of longitude, for its base, *A'E'*, the projected distance, for its hypotenuse, and the angle *F'A'E'* equal to the course.

If therefore, in the annexed figure, ABC and ADE be two right angled plane triangles, and AD be the difference of latitude, the common angle A the course, and AD the meridional difference of latitude, then BC will be the departure, or the sum of the elementary meridional distances, AC the nautical distance, and DE the difference of longitude, all exactly. Hence from such parts of these triangles as may be given, the others may in any case be determined, either by computation, inspection, or otherwise.

The following obvious proportions will be found useful:—1st. AB:BC::AD:DE; 2d. AD:DE::rad.:tan. A. That is, diff. lat.:dep.:mer. diff. lat.:diff. long.; and mer. diff. lat.:diff. long.:rad.:tan. course.

Example.—1. Required the course and distance from lat. 28° 30' N., long. 30° 15' W., to Cape Clear in Ireland, lat. 51° 25' N., long. 9° 29' W.?

Lat. Cape Clear . . . 51° 25' N.
Lat. in. 28 30 N.

Diff. lat. 1375 N. = 22 55

Mer. parts . . . 3609
Mer. parts . . . 1785

Mer. diff. lat. . . 1824

Long. 30° 15'
Long. 9 29

Diff. long. . . 20 46 = 1246, E.

By construction.—Draw the meridian AD, fig. 20, and make DE perpendicular to A; make AD = 1824, the meridional difference of latitude, DE = 1246 the difference of longitude, and AB = 1375 the difference of latitude. Join AE and draw CB parallel to DE, then AC the distance will be found = 1665, and angle A the course N. 34½° E.

By inspection.—With 1824 in latitude column, and 1246 in dep. column, the angle A, the course, will be found 34½°; with this course and 1375 in latitude column, AC will be found in the distance column = 1665 miles.

By Gunter's scale.—Extend on the line of numbers from 1824 to 1246, and that extent will reach from radius to 34½°, the course on the line of tangents. Extend again from radius to 1665, the complement of the course on the line of sines, and the extent applied to the line of numbers will reach from 1375, the difference of latitude, to the distance.

By calculation.

As mer. diff. lat. AD, 1824 . . . 3.261025
: diff. long. DE, 1246 . . . 3.095518
:: rad. 10.000000

: Tan. lat. the course 34° 20' 9.834493

As rad. 10.000000
: diff. lat. AB, 1375 . . . 3.138303
:: sect. course 34° 20' . . . 10.083141

AC, the distance, 1665 . . . 3.221444

Example 2.—If a ship sail from the Cape of Good Hope, lat. 34° 29' S., long. 18° 23, E.,

S.W. by W. ¼ W. 197 miles; required her latitude and longitude in?

By construction.—Draw the meridian AD, and draw AC making the angle A = 5¼ points, the given course, and make AC = the distance 197. From C let fall the perpendicular CB on AD; then AB will be the difference of latitude, and BC the departure; and AB, being measured, will be found = 101 = 1° 41', which, added to 34° 29', the latitude left, gives 36° 10' S. the latitude in. Then take the difference of the meridional parts of these two latitudes, and lay it off from A to D, and draw DE parallel to BC, and DE will be the difference of longitude, = 205 W. = 3° 25', which subtracted from 18° 23', the east longitude left, leaves 14° 58' E., for the longitude arrived at.

By inspection.—With the given course and distance the difference of latitude is found = 101.4, and the latitude in as above. And with the same course and the meridional difference of latitude 123 in the latitude column, the difference of longitude ED is found in the departure column = 205, whence the longitude in is obtained also as above.

By Gunter's scale.—Extend from radius to 2¼ points, the complement of the course, on the line of sines, and the extent applied to the line of numbers will reach from the distance 197, to the difference of latitude 101. Again, extend from radius to 5¼ points, the course on the line of tangents, and the extent will reach from 123, the meridional difference of latitude to 205, the difference of longitude on the line of numbers.

By calculation.

As rad. 10.000000
: dist. 197 2.294466
:: cosin. course 5¼ points . . . 9.711050

: diff. lat. 101.3 2.005516

As rad. 10.000000
: tan. course 5¼ points . . . 10.222300
:: mer. diff. lat. 123 . . . 2.089905

Diff. long. 205.2 2.312205

Lat. left 34° 29' S.
Diff. lat. 1 41 S.

Lat. in. 36 10 S.

Mer. parts 2207
Mer. parts 2330

Mer. diff. lat. 123

Long. left 18° 23' E.
Diff. long. 3 25 W.

Long. in 14 58 E.

In Mercator's sailing, though the principles are perfectly correct, they do not apply to the case in which two places are in the same parallel of latitude; in that case the principles of parallel sailing must be resorted to. And in all cases when the difference of latitude is small, and the course large, a trifling error in the difference of latitude may produce a very important error

in the difference of longitude. In such cases re-course had better be had to middle latitude sailing, and we shall here give a method, devised by Mr. Workman, by which the results of that approximate method may be aided by a table of meridional parts be rendered correct.

Let L = the difference of longitude, l the dif-

Then $m : L :: R : \frac{LR}{m} = T$; by the principles of Mercator's sailing

Then $l : L :: C : \frac{CL}{l} = T$, by the principles of middle latitude sailing.

Hence $\frac{LR}{m} = \frac{CL}{l}$, or $Rl = mC$, or $C = \frac{Rl}{m}$.

Again by mid. lat. sailing $R : C :: L : \frac{CL}{R}$, the

departure. But $R : \frac{CL}{R} :: S : \frac{CSL}{R^2} = d =$

$\frac{lL}{mR}$, by substituting $\frac{Rl}{m}$ for C . We have

hence the means of finding the latitude of the parallel in which the departure is equal to the meridional distance; and the principles of middle latitude sailing may, therefore, be made to afford results perfectly correct. We shall solve the first of the two preceding examples by this method. Here $l = 1375$, $L = 1246$, and $m =$

1824 ; whence $\frac{R \cdot l}{m} = 9.877278 = \cos. 41^\circ 5'$,

and $\frac{CL}{l} = T = 9.834493$, tangent course 34°

$20'$, as before.

The subjoined Table will facilitate the appli-

ference of latitude, m the meridional difference of latitude, D the distance on Mercator's chart, d the true nautical distance, T the tangent of the course, S the cosecant of the course, C the cosine of the parallel in which the meridional distance is correctly equal to the departure, and $R =$ radius.

cation of this method. It is used in the following manner:—Take half the sum of the latitudes for the mean middle latitude, and take also the difference of the latitudes. Then enter the table with the nearest degree of mean middle latitude at the side, and the nearest degree of difference of latitude at the top, and in the angle of meeting is the correction to be added to the mean middle latitude, to obtain what in this case may be called the true middle latitude.

Example.—What is the true middle latitude between $40^\circ 17' N.$ and $55^\circ 51' N.$?

$55^\circ 51' N.$	$55^\circ 51'$	
$40^\circ 17' N.$	$40^\circ 17'$	
$15 \quad 34$	$2)96 \quad 8$	
	$48 \quad 4$	mean mid. lat.
Correction	33	
	$48 \quad 37$	true mid. lat.

TABLE OF CORRECTIONS to be added to the MEAN MIDDLE LATITUDE to find the TRUE MIDDLE LATITUDE.

Mean Mid. Lat.	DIFFERENCE OF LATITUDE.																									
	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°						
15	0	1	2	3	4	6	9	12	15	19	23	27	31	35	40	45	51	58	1	6	1	14				
17	0	1	2	3	4	6	8	11	14	17	21	25	28	32	37	42	48	54	1	1	1	8				
19	0	1	2	3	4	6	7	10	13	16	19	23	26	30	34	40	45	50	56	1	3					
21	0	1	2	3	4	6	7	9	12	15	18	21	25	29	33	37	42	47	53	58						
23	0	1	2	3	4	6	7	9	12	15	17	20	24	28	32	36	40	45	50	55						
25	0	1	2	3	4	5	7	9	11	14	16	19	23	27	31	35	39	43	47	52						
27	0	1	2	3	4	5	7	8	11	14	16	19	22	26	30	33	38	42	46	51						
31	0	1	2	3	4	5	6	8	10	13	15	18	21	25	28	32	36	41	45	50						
35	0	1	2	3	4	5	6	8	10	13	15	18	21	24	27	31	35	40	44	49						
39	0	1	2	3	4	5	6	8	10	13	15	18	21	25	28	32	36	41	45	50						
43	0	1	2	3	4	5	7	9	11	14	16	19	23	26	30	34	38	42	46	51						
45	0	1	2	3	4	5	7	9	11	14	16	19	23	27	31	35	39	43	47	52						
47	0	1	2	3	4	5	7	9	11	14	16	20	23	27	31	35	40	44	49	54						
49	0	1	2	3	4	5	7	9	11	14	17	21	24	28	32	36	41	45	51	57						
51	0	1	2	3	4	5	7	9	11	14	17	21	24	28	32	37	42	47	53	59						
53	0	1	2	3	4	6	7	9	12	15	18	22	25	29	33	38	43	49	55	1	1	10				
55	0	1	2	3	4	6	8	10	13	16	19	23	26	30	35	40	45	51	57	1	3					
57	0	1	2	3	4	6	8	11	14	17	20	24	28	32	37	42	48	54	1	0	1	6				
59	0	1	2	3	4	6	9	12	15	18	22	26	30	34	39	45	51	57	1	4	1	10				
61	0	1	2	3	5	7	9	12	15	19	23	27	31	36	41	47	54	1	1	8	1	15				
63	0	1	2	4	5	7	9	13	16	20	24	29	33	39	44	51	58	1	5	1	12	1	21			
65	0	1	2	4	6	8	10	13	17	21	25	30	35	41	48	55	1	2	1	9	1	17	1	27		
67	0	1	2	4	6	8	11	15	18	23	27	33	38	45	53	1	0	1	7	1	16	1	25	1	35	
69	0	1	2	5	6	9	12	16	20	25	30	36	44	50	58	1	5	1	13	1	23	1	34	1	44	
71	1	2	4	6	7	9	13	18	22	27	33	40	46	55	1	3	1	12	1	22	1	32	1	44	1	56

Method of finding the difference of longitude when a ship sails on a traverse.

Rule.—Resolve the traverse by means of the traverse table, as shown in traverse sailing, and find the latitude in the middle latitude between that left and that arrived at, and the meridional difference of latitude between the same two latitudes. Then with the middle latitude as a course, and the departure made on the traverse, in the latitude column of a traverse table, the difference of longitude will be found in the distance column. Or, with the difference of latitude and departure made good on the traverse, find the course and distance; and with the same course, and the meridional difference of latitude in the latitude column, the difference of longitude will be found in the departure column.

Or, by computation,

rad. : dep. :: sect. mid. lat. : diff. long.
 diff. lat. : dep. :: mer. diff. lat. : diff. long.

The difference of longitude, being always of the same denomination as the departure, must be added to, or subtracted from, the longitude left, according as they are of the same or different names, to obtain the longitude in.

If the traverse is performed in a very high latitude, it will be advisable to compute the difference of longitude separately on each course and distance, which may easily be done thus:—Find the latitude in at the end of each course, and the middle latitude between it, and that at the end of each preceding course, and the meridional difference of latitude between each pair of successive latitudes. Then with the middle latitude for each course, and the departure made on that course, find, as above, the difference of longitude; or with the meridional difference of latitude on each course, and the course made good, find, as above, the difference of longitude.

Enter the different longitudes thus found in two columns, headed E. and W., according as the course has been easterly or westerly; then the difference between the sum of the numbers in these columns will be the whole difference of longitude made on the traverse, and of the same denomination with the greater sum.

Note.—When the course is north or south, no difference of longitude will be made; and, when it is east or west, the difference of longitude must be found by parallel sailing. In practice, the difference of longitude will generally be determined with sufficient exactness by inspection; and it may be a useful precaution generally to compare it both by middle latitude and Mercator's sailing. If however the course is small, and any little discordance should appear in the results by the two methods, that by Mercator's ought to be preferred; and the contrary when the course is large.

Example.—If a ship sail from Cape Farewell, in Greenland, lat. 59° 42' N., long. 45° 16' W., S. E. by E. 38, E. ½ N. 26, S. by W. ½ W. 40, N. E. by N. 33, S. E. 16, and S. W. ½ W. 20 miles, required her latitude and longitude in; and course and distance to the Butt of Lewis, at. 58° 29' N., long. 6° 12' W.?

TRAVERSE TABLE.

Courses.	Dist.	Diff. Lat.		Departure.	
		N.	S.	E.	W.
S. E. by E.	38		21.1	31.6	
E. ½ N.	26	2.5		25.9	
S. by W. ½ W.	40		38.3		11.6
N. E. by N.	33	27.4		18.3	
S. E. . . .	16		11.3	11.3	
S. W. ½ W.	20		12.7		15.5
S. 48½° E.	80.5	29.9	83.4	87.1	27.1
			29.9	27.1	
		Diff. lat. S.	53.5	60.0	Dep. E.

Lat. left . . . 59° 42' N.
 Diff. lat. . . . 0 53 S.

Lat. in . . . 58 49

2) 118 31

59 15 Mer. mid. lat.
 0 Correction.

Mer. parts . 4492 Long. . 45° 16 W.
 Mer. parts . 4388 Diff. long. 1 57 E.

Mer. diff. lat. 104 Long. in 43 19 W.

With the difference of latitude 53° 5' S., and departure 60.0 E. the course is found S. 48° 30' E., and distance 85; and with this course and meridional difference of latitude 104 in latitude column, the difference of longitude is found 117 E. = 1° 57' E. in departure column.

Or, with middle latitude 59° 15' as a course, and departure 60 in latitude column, the difference of longitude is found 115 in distance column.

We shall now find the difference of longitude on each separate course.

I.—By MIDDLE LATITUDE SAILING.

Course.	N.	Mid. Lat.	Dep.	Diff. Long.	
				E.	N.
Lat. left	59 42	°			
Lat. at the end of 1st	59 21	59	31	31.6E.	
2d	59 24	59	22	25.9E.	50.6
3d	58 46	59	5	11.6W.	22.5
4th	59 13	58	59	18.3E.	35.5
5th	59 2	59	7	11.3E.	22.0
6th	58 49	58	55	15.5W.	30.0
				170.3	52.5
				52.5	
			Diff. long.	117.8 E.	

Long. left . . . 45° 16' W.
 Diff. long. . . . 1 58 E.
 Long. in 43 18 W.

II.—By MERCATOR'S SAILING.

Courses.	Succes- sive La- titudes.	Mer. Parts.	Mer. Diff. Lat.	Diff. Long.	
				E.	W.
	59 42	4492			
S. E. by E.	59 21	4450	42	62·8	
E. ½ N. . .	59 24	4456	6	50·6	
S. by W. ½ W.	58 46	4382	74		22·5
N. E. by N.	59 13	4434	52	34·7	
S. E. . . .	59 2	4413	21	21·0	
S. W. ½ W.	58 49	4388	25		30·5
				169·1	53·0
				53·0	
				Diff. long. 116·1 E.	

The second course being so nearly east, the difference of longitude is found by parallel sailing; as by Mercator's sailing an error of half a mile in the meridional difference of latitude would produce an error of five miles in the difference of longitude.

To find the course and distance to the Butt of Lewis.

Lat. in 58° 49' N.
 Lat. Butt Lewis 58 29 N.
 Diff. lat. . . . 20 S.
 58 39 mean mid. lat.
 Correction 0
 Long. 43° 18' W.
 Long. 6 12 W.
 Diff. long. . . 37 6 = 22° 26' E.

Here as the difference of latitude is so small when compared with the difference of longitude, we shall compute by middle latitude sailing.

As diff. lat. . . . 20 1·301030
 ∴ Diff. long. . . 22° 26' 3·347525
 ∴ Cos. mid. lat. 58° 39' 9·716224
 13·063749
 ∴ True course S. 89° 1' E. 11·762719
 As sin. course 9·999938
 ∴ Diff. long. 22° 26' . . 3·347525
 ∴ Cosin. mid. lat. 58° 39' 9·716224
 13·063749
 ∴ Dist. 1157 miles . . 3·063811

Method of measuring the distance sailed.—
 To determine the velocity with which a vessel

sails, a piece of wood cut out in the form of the sector of a circle is cast into the sea, and it is then considered as a fixed point, the distance from which is measured by means of a string attached to the log, and unwound from a reel, as the vessel moves through the water.

The curved part of the log is loaded with lead so as to sink the whole just below the surface of the water, and at the same time keep it upright. One string is securely fixed to the central point of the log, and a second is attached, by means of a peg, to the middle of the curve. These two strings, at a short distance, are united in one; and when stretched keep the broad side of the log towards the ship, thereby causing it to oppose the most powerful resistance to motion in that direction.

Thus prepared the log is cast into the sea, and about ten fathoms of the line, called stray line, is suffered to run off the reel, for the purpose of stretching it, and to allow the log to get out of the wake of the vessel. Afterwards the line run off in a certain number of seconds is measured, whence the rate of sailing at the time is deduced.

The person who heaves the log knows when the stray line is run off, by a particular mark on the line, and the length afterwards run out by means of knots which are at distances from each other bearing the same proportion to a nautical mile that the time run by the sand-glass used in marking the time does to an hour. If one of these knots pass in the interval, the ship's rate of sailing is one mile per hour; if two knots pass, the rate of sailing is two miles per hour; and so on.

In the navy a sand-glass running twenty-eight seconds is generally used, and the length of a knot is forty-seven feet three inches; which bears the same proportion to 6075·5 feet, the length of a mean nautical mile, that twenty-eight seconds does to an hour. In the merchant service, however, the sand-glass generally runs thirty seconds, and the knots are about fifty-one feet apart: rather more than the just proportion, but the excess is allowed as a compensation for the dragging of the log by the weight of the line and the friction of the reel.

In the navy the knot is generally subdivided into eight parts, denominated fathoms; in East Indiamen, and the better class of merchantmen in general, the knot is subdivided into ten parts, also called fathoms; and this mode of subdivision is decidedly the most convenient. In ships in which little nicety is pretended to in the navigation the knots are subdivided into four parts, and sometimes they are simply halved.

The number of seconds run by the glass, and the length of the knots on the log-line should be frequently examined, and, if necessary, altered. Or, what would answer better than shifting the marks on the log-line so frequently as would thus be required, the error of the several knots might be determined at least once a-day immediately after heaving the log, and a correction applied to the distances from a table constructed for the purpose.

If the knots have a uniform error, and the glass is also erroneous, the true distance may be obtained by the following

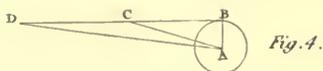


Fig. 4.

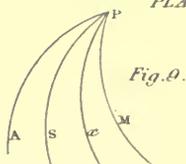


Fig. 9.

Fig. 1.

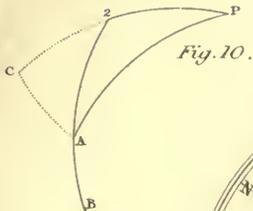
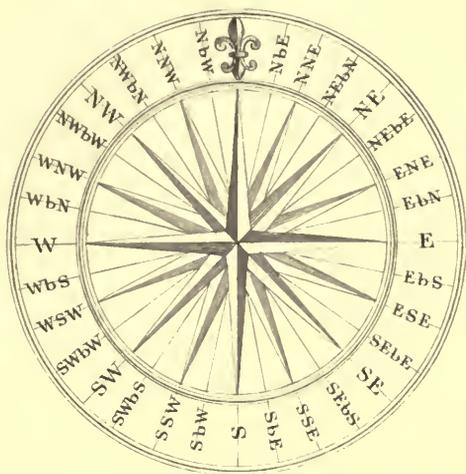


Fig. 10.

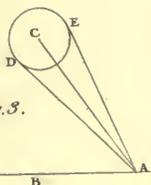


Fig. 3.

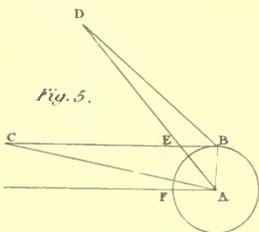


Fig. 5.

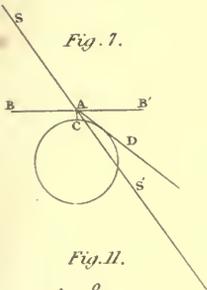


Fig. 7.

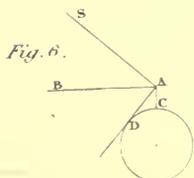


Fig. 6.

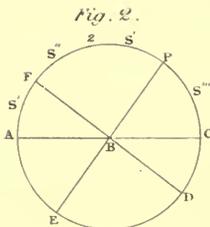


Fig. 2.

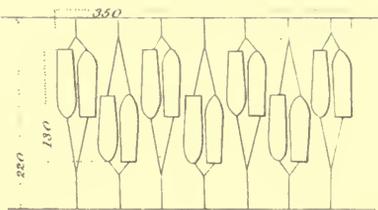


Fig. 21.

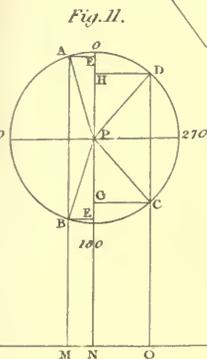


Fig. 11.

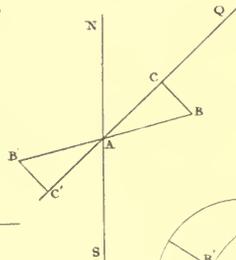


Fig. 15.

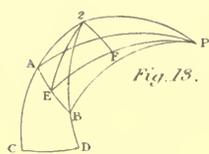


Fig. 13.

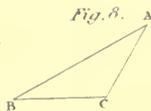


Fig. 8.

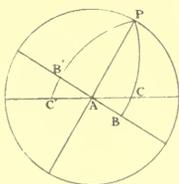


Fig. 16.

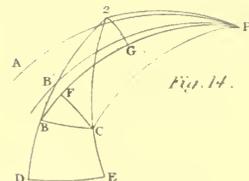


Fig. 14.

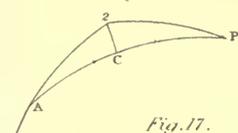


Fig. 17.

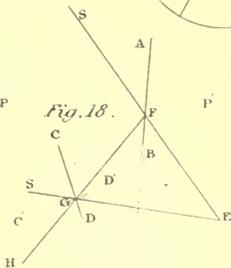


Fig. 18.

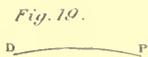


Fig. 19.

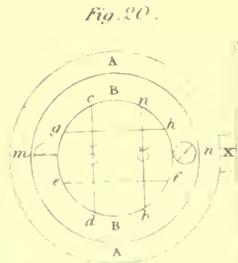


Fig. 20.

Rule.—Multiply the distance given by the erroneous log-line and glass by six times the measured length of a knot, and divide the product by ten times the seconds run by the glass, and the quotient will be the true distance.

Example.—A ship appears to have run 159 miles by a glass running twenty-seven seconds, the knots of the log-line measuring fifty-two feet each; required the true distance?

$$\frac{159 \times 52 \times 6}{10 \times 27} = 184 \text{ miles. Answer.}$$

Method of keeping a ship on any given course.—A ship is kept on any given course at sea, by means of an instrument called the mariner's compass, which is merely a circular card suspended horizontally on a point, and having a magnetised bar of steel, called the needle, for one of its diameters.

The circumference of the card is generally divided into thirty-two equal parts, called points, and each division is subdivided into four parts, called quarter points. A point is therefore equal to 11° 15'; but in some compasses the rim of the card is divided also into degrees.

From the manner in which the card is suspended, the polarity of the needle causes its plane, in every situation, to assume a particular position, the point of the card which coincides with the north pole of the needle is marked north, and the opposite point south. The compass, placed in a box and secured by a glass cover from the wind and sea, is placed on the binnacle near the steersman, who is said to steer on any particular point of the compass, when he brings the fore and aft line of the ship in the same direction with the line on the card which indicates that point.

The middle points between the north and south are called east and west, and the other points are named according to their situation with reference to the cardinal points, north, south, east, and west, as in Plate II. fig. 1.

There are few situations in which the needle points due north and south, and even in the same situation its direction undergoes a slow and gradual alteration. At present, at London, it deviates from the meridian about 24° 30' towards the left or the west; but at the North Cape it points only about 1° towards the west, while in some parts of Davis's Straits it points upwards of six points and a half towards the west, and near Cape Horn it points about 22° towards the east. In the year 1580 the needle pointed about 11° or 12° towards the east, though now, as has just been stated, it points about 24° 30' towards the west. But in the West Indies the deviation has scarcely undergone any perceptible alteration for a very long period.

This deviation is called the variation of the compass, and the method of finding it by celestial observations will be given in a subsequent part of this article. It is denominated easterly or westerly variation, according as the needle points to the east or west of the true north.

Having computed the true course from one place to another by the appropriate rules, which have already been given, it is necessary, before that course can be steered by the compass, to

make a proper allowance for the variation; that is, to find what point of the card corresponds with the course determined by calculation.

To explain the manner of doing this, we shall first suppose that the ship lies on the true computed course, and that the needle has no variation; in this case it is evident that no correction would be required. When the ship and compass are thus situated, let the north point of the needle be turned a little towards the west; then every point of the card will be carried to the left of its former place, and the course of the ship, though in reality the same, will appear by the compass to be the right of what it was before, or is the right of the true course. If we conceive the needle to deviate towards the east, a contrary effect will be produced, the apparent course by the compass appearing to the left of the true course.

Hence in finding the compass course when the true course is known westerly variation is allowed to the right, and easterly to the left of the true course; and, in finding the true course from a given course by the compass, the variation if west is allowed to the left, and if right to the east of the course, as shown by the compass.

The following considerations will aid the student in recollecting the points of the compass. The middle point between

- N. and E. is N. E.
- N. and W. is N. W.
- S. and E. is S. E.
- S. and W. is S. W.

The names being got simply by putting together the letters of the cardinal points between which they lie, and from which they are distant four points. The middle point between

- N. and N. E. is N. N. E.
- E. and N. E. is E. N. E.
- S. and S. W. is S. S. W., &c.

So that the second set of middle points are also got by putting together the letters of the points already determined, and from which they are distant two points. The remaining points, which may be considered as the third set of middle points, receive their names from the side on which they lie of the first middle point. Thus the point to the right of N. is called N. by E., and that to the left N. by W.; the point to the right of S.W. is called S.W. by W., and that to the left S.W. by S.

ON LEEWAY.

The action of the wind on the sails, rigging, and sides of a ship, when it lies near the point from which the wind blows, not only tends to impel her in the direction of a fore and aft line, but it also presses her sideways, and thus, upon the whole, the real track made in the sea is to leeward of the apparent line on which the ship is steered, and makes an angle with it, which angle is called the leeway.

When the wind is on the right hand side of a ship, she is said to be on the starboard tack; and when on the left hand side she is said to be on the larboard tack; and when she sails as near the wind as she will lie, she is said to be close hauled. Large vessels will seldom be within

less than six points of the wind, but small ones will often lie within less than five points. To determine the point towards which the ship actually moves under such circumstances, it is evident that the leeway must be allowed from the wind, or towards the right of her apparent course, when she is on the larboard tack, but towards the left when she is on the starboard tack.

The leeway made by a ship at sea may be estimated by drawing a small arc of a circle at the stern, and marking on it the points of the compass. The angle between the fore and aft line of the ship and the track left by the ship on the sea, or the wake, is the required leeway. This angle may also be observed by a mariner's compass placed at the stern.

In estimating the leeway mariners are often guided by certain general rules, which we here subjoin, as they may be useful in the dark, when the leeway cannot be known from observation. These rules, however, must be considered as affording only a rough approximation.

General rules for estimating the leeway, when a ship is close hauled.

1. When the water is smooth, all sails set, and the wind moderate, allow no leeway; but if there be a strong breeze the leeway may amount to a point.

2. When the top-gallant sails are handed, the leeway may be from one point to one point and a half.

3. Under close reefed top-sails, the allowance may be from two to three points.

4. With top-sails handed, from three to four points.

5. Under courses, from four to six points, according to circumstances.

6. Under reefed courses, possibly six points.

7. Under storm stay-sails, possibly seven points.

8. Under bare poles, from seven to eight points.

Much in any case must be left to the judgment of the mariner, and he must take into account a variety of circumstances, in making allowance for leeway, before he will venture to affirm that his estimate is entitled to entire confidence.

The leeway and variation being supposed known, we have now to show how the allowances are made for them in actual practice.

Rule.—Put down the variation, and mark it R or L, according as it is east or west; and underneath put the leeway and mark it R or L according as the ship is on the larboard or starboard tack, take the sum when they are alike, and the difference when they are unlike, and work it with the name of the greater. Then if the result is marked R, allow it to the right, if L, to the left of the compass course, and you have the true course.

Example 1. Compass course N. W. $\frac{1}{2}$ W., variation three points west, leeway two points, ship on the starboard tack; required the true course?

Here variation three points L, and leeway two points L, therefore the total correction is five points towards the left; whence the true course is W. by S. $\frac{1}{2}$ S.

Example 2.—Compass course S. E. by E. on the starboard tack, with three points leeway, and

four points easterly variation, what is the true course?

Here leeway three points L, and variation four points R; hence the correction is one point R, and the true course is consequently south-east.

ON KEEPING A SEA JOURNAL.

A sea journal contains an account of every thing of importance that occurs on ship board, and in particular a minute detail of every thing connected with the navigation of the ship; to enable the mariners at any time to find her true situation.

On commencing a voyage, the true course to the place it is first intended to reach is either taken from a chart or computed, and thence by allowing for the variation the corresponding course by the compass is known; and, if circumstances admit, the ship is kept upon that course. When a ship leaves the land the bearing of some known place is taken by the compass, and its distance in general estimated by the eye; and that distance is considered as the first distance sailed, with the opposite bearing as a course. But the distance may be accurately computed if the bearing of the object be taken twice, and the ship's course and distance in the interval be accurately noted. For let a ship sail from B to C (fig. 2), and note at these points the bearing of the object A, then the angle A is the change in the object's bearing, the angle B the angle included between the bearing of A at that place, and the ship's course, and the angle C, the angle included between the bearing of A at C, and the opposite point to the course. Now $\sin. A : \sin. B :: BC : AC$, and $\sin. A : \sin. C :: CB : AB$; that is, as the sine of the change in the object's bearing is to the sine of the angle included between the bearing of the object at the first observation, so is the distance run in the interval to the distance of the object from the second place of observation.

The other courses and distances made during the day being determined by the compass and the log, they are written in chalk on a black board, called the log board, of which we shall shortly show the general form, and afterwards copied into a book ruled in the same manner, called the log book. The courses are either corrected for leeway before they are entered on the board, or the leeway is also entered with the course in a column appropriated for the purpose. The setting and draft of currents, the estimated effect of the swell of the sea, &c., are also entered in the column of remarks, a column which contains a record of every circumstance of importance whether connected or not with the navigation of the ship.

The setting of the current is considered as a course, and its drift as a distance, and the opposite point to that in which a swell of the sea comes is considered as a course, and what the ship is presumed to drift by it as a distance. If the course is changed during the hour, an estimated course for the whole hour is commonly entered on the log book.

In lying to, the middle course between the points on which the ship comes up and falls off is taken as the compass course.

The courses in the log-book being corrected for leeway and variation, and the distance on each course summed up and entered in a traverse table, including among the courses and distances the effects of currents and the swell of the sea; the place of the ship is determined by the methods already given under the different heads of navigation; but the computations are generally performed, and they may be exactly enough performed, by inspection.

The finding of the ship's place, from the courses and distances marked on the log-board, is called working a day's work. An abstract of the whole, containing the course and distance made during the day, the difference of latitude and departure, the latitude and longitude obtained from the reckoning, and those deduced from observations, and the bearing and distance of the port, or of the nearest land that may lie in the ship's way.

If the variation is given in degrees it will be found convenient not to correct each course separately for it, but to find the resultant in course and distance for the whole day's work, allowing only for leeway; and then with this distance, and the resulting course corrected for variation, find the true difference of latitude and departure.

The day is divided, according to the civil mode, into two intervals of twelve hours each, the first marked A.M., the latter P.M. It is supposed to begin at midnight, though the reckoning is worked up from noon to noon, and the place of the ship settled each day at that time.

We shall now exemplify what has been said on the method of keeping a journal, by two days' work, in which a ship is supposed to take her departure from Cape Finisterre, and bound for Madeira. The course being found each day to Porto Sancto. Ten fathoms are accounted to the knot.

JOURNAL of a VOYAGE from CAPE FINISTERRE towards MADEIRA, in the Sheldrake, Captain FOREST, kept by F. JONES, Mate.

H.	K.	F.	Courses.	Winds.	Leeway Points.	Remarks, Feb. 9th, 1813.
1	7		S.W. $\frac{1}{4}$ W.	N.N.W. $\frac{1}{4}$ W.		P. M. At noon took departure from Cape Finisterre, bearing N. N. E. fifteen miles. Moderate and fine, all sail set.
2	6	3				At three down studding rl. and mid stay sails, and tacked.
3	5	4				At seven fresh breezes and fine weather, in rl., down flying jib, and T. G. stay sail, and in 2d reef T. S.
4	6	2	S. E. $\frac{3}{4}$ S.	S. S. W. $\frac{3}{4}$ W.		At eight tacked, fresh breezes.
5	6	8				Midnight, still fresh. Tacked again.
6	5	3				
7	7	1			$\frac{1}{2}$	
8	7	8				
9	6	9	W. $\frac{3}{4}$ N.	Ditto.	$\frac{1}{2}$	
10	6	4				
11	7	7				
12	6	8				

H.	K.	F.	Courses.	Winds.	Leeway Points.	Remarks, Feb. 10th, 1818.		
1	6	8	S. S. E.	S. W.	$\frac{1}{2}$	A.M. Fresh breezes and cloudy. At 4 strong breezes. In T. G. sails, and third reef. To sails; down outer, and set inner jib; reefed spanker, down royal and T. G. yards, and struck T masts. At five tacked.		
2	5	6				At ten strong breezes; down inner jib, and up F. T. mast stay sail.		
3	7	2				A swell from six till noon from N. N. W., drift by estimation nine miles. Variation one and three quarters. W.		
4	7	3	W. by N.	S. W. by S	$1\frac{1}{4}$			
5	5	4						
6	6	3						
7	7	1						
8	6	8						
9	6	5						
10	7	3						
11	6	4						
12	6	5						
Course.			Dist.	Diff. Lat.	Dep.	Diff. Long.	Long. in	Bearing and Dist. Porto Sancto.

H.	K.	F.	Courses.	Winds.	Leeway Points.	Remarks, Feb. 10th, 1818.
1	6	6	S. E. by E.	S. by W.	1½	Pier. Strong breezes with a heavy head sea.
2	5	3				
3	6	8				
4	6	4	W. S. W. ½ W.	S. ½ W.	2	Tacked at four, weather as before. At five got T. G. masts on deck and flying jib boom in. At six in fourth reef T. sails and reefed courses; down spanker and set trysail. At eight tacked again.
5	5	9				
6	5	4				
7	5	3				
8	5	6				
9	6	2	E. by S.	S. by E.		Midnight, strong breezes, tacked.
10	6	1				
11	6	3				
12	5	8				

H.	K.	F.	Courses.	Winds.	Leeway Points.	Remarks, Feb. 11th.		
1	6	4	W.	S. S. W.	2	A. M. Strong breezes, at four tacked.		
2	5	2						
3	5	8						
4	4	4	S. E. by S.	S. W. by S.	4	At six in mizen T. sail, and set mizen stay sail.		
5	4	3						
6	5	7						
7	5	6						
8	5	3						
9	4	8	W. N. W.	S. W.	5	At nine a brig in the S. W. quarter, running N. W. Noon strong breezes. Variation 1¼ W.		
10	4	5						
11	4	0						
12	4	3						
Course.			Dist.	Diff. Lat.	Dep.	Diff. Long.	Long. in	Bearing and Dist. Porto Sancto.

As Cape Finisterre on taking the departure bears N. N. E., the compass course from it is S. S. W., and one point three-quarters west variation being allowed to the left makes the true course S. ¼ W., and the distance is fifteen miles. The second course S. W. ¼ W. corrected in like manner for variation is S. S. W. ½ W., and the distance as summed up on that course is 18·7 miles. The third course S. E. ¾ S. corrected for variation is S. E. by E., distance till six, 18·3 miles. At six the ship begins to make leeway, to the extent of half a point; and, as she is on the starboard tack, both leeway and variation are to be allowed to the left. The sum of them one point three-quarters and half a point is two points one-quarter, which allowed to the left of S. E. ¾ S., the course which the ship was steering, gives S. E. by E. ½ E. for the true course, and the distance till eight, 14·9 miles. From eight till nine, and so on till midnight, the ship ran W. ¾ W. on the larboard tack, making half a point leeway. Hence we have variation one point three-quarters east, and leeway half a point east; difference to be allowed to the left one point and a quarter; and this allowed to the left of W. ¾ N. gives W. ½ S. for the true course, and the distance is 27·8.

On Feb. 10th A. M. the first course is S. S. E. on the starboard tack, with variation 1¾ L, and leeway ½ L; sum 2¼ L left, and true course S. E. ¼ E. distance till five, 32·3 miles; the second course is W. by N. on the larboard tack, 1¼ leeway R. whence 1¾ L — 1¼ R = ½ point, left, the correction; and the true course is W. ½ N. and distance 46·9. The swell coming from N. N. W. will drive the ship S. S. E., on which course 1¾ variation being allowed to the left, the true course S. E. ¼ S. distance nine miles.

The first course on Feb. 10th, P. M. is S. E. by E. on the starboard tack, with 1¼ points leeway. Hence 1¼ L + 1¾ L = three points L. the correction of the course which hence is E. and the distance till four, 25·1 miles. The second course is W. S. W. ¼ W. on the larboard tack with 1¼ points leeway; therefore 1¾ L. — 1¼ R. = ½ point left; whence the true course is W. S. W. and distance thirty-nine miles, the leeway being different the next hour. The correction of the next course is 2 R. — 1¾ L. = ¼ R. which allowed on W. S. W. ¼ W. gives W. S. W. ¾ W. for the true course, distance from five till eight, 16·3 miles. The last course P. M. Feb. 10th is E. by S. on the starboard tack with two points leeway. Hence the correction is

2 L. + 1½ L. = 3½ L.; whence the true course is N. E. by E. ¼ E. distance from eight till midnight 24·4 miles.

The first course Feb. 11th, A. M. is west, on the larboard tack, two points leeway; hence 2 R. — 1½ L. = ¼ R. and the course is therefore W. ¼ N. and the distance till two, when the leeway changes, is 11·6 miles; at two the course steered is the same, but the correction is 4 R. — 1½ L. = 2½ R. which allowed to the right of W. gives N. W. by W. ¾ W. for the true course, and the distance in that with four points leeway; hence the correction is 4 L. + 1½ L. = 5½ left, distance till six 10 miles. At six with the same course, and on the same tack there are five points leeway, whence the correction is 6½ L. and the true course E. by N. ¼ N. and the distance till eight 16·6 miles. At eight the course is W. N. W. on the larboard tack with five points leeway, whence the correction is 5 R. — 1½ L. = 3½ R., and consequently the true course is N. N. W. ¾ W. and the distance till noon 17·6 miles.

Note.—The distances marked opposite any hour are those given from the hour preceding till that opposite which they are entered.

Collecting now the courses our distances from noon of Feb. 9th, till noon Feb. 10th, into a traverse table, we have it as under.

Courses.	Dist.	Diff. Lat.		Dep.	
		N.	S.	E.	W.
S. ¼ W.	15		15·00		0·70
S. S. W. ½ W.	18·7		16·49		8·81
S. E. by E.	18·3		10·17	15·22	
S. E. by E. ½ E.	19·9		9·38	17·55	
W. ½ S.	27·8		2·73		27·77
S. E. ¼ E.	32·3		21·69	23·93	
W. ½ N.	46·9	4·59			46·68
S. E. ¼ S.	9		6·67	6·04	
S. 15° 17' W.	80·49	4·59	82·13	62·74	83·96
			4·59		62·74
		Diff. lat. S. 77·64	D. W. 21·22		

Lat. Cape Finisterre 42° 54' N.
 Diff. lat. seventy-eight miles 1 18 S.

Lat in 41 36 N.

2) 84 30

Mid. lat. 42 15

Mer. parts 2855 Long. 9° 16' W.
 Mer. parts 2750 Diff. long. 29 W.

Mer. diff. lat. 105 Long. in 9 45 W.

With the diff. lat. 77·64 S. in its column, and dep. 21·22 W. in its column, the course and distance will be found in a table of diff. lat and dep. to be S. 15° ¼ W. 80·5. With this course and mer. diff. lat. 105 in lat. column, the diff. long. will be found in the dist. column to be 28·7, or with mid. lat. 42½° as a course, and dep. 21·22 in lat. column, the diff. long. will be found 28·7 in the dist. column.

By computation.—As diff. lat. 77·64: dep. 21·22 :: rad.: tan. 15° 17', the course.

As rad.: diff. lat. :: sect. course : 80·49, the distance.

As diff. lat.: dep. :: mer. diff. lat. 105 : 28·7, the diff. long.

Or rad.: dep. :: sect. mid. lat. 42° 15' : 28·7, the diff. long.

To find the course and dist. to Porto Sancto.

Lat. in 41° 36' N.

Lat. P. Sancto 33 3 N.

Diff. lat. 8 33 = 513 S.

2) 74 39

Mid. lat. 37 19

Correction + 8

True mid. lat. 37 27

Mer. parts 2750

Mer. parts 2103

Mer. diff. lat. 647 S.

Long. in 9° 45' W.

Long. P. Sancto 16 17 W.

Diff. long 6 32 = 392 W.

With mer. diff. lat. 647 S. in lat. column, and diff. long. 392 W. in dep. column, the course is S. 31° ¼ W.; with this course and proper diff. lat. 513 in lat. column, the distance is found 600 miles.

Or with mid. lat. 37½ as course, and diff. long. 392 as dist. the dep. is found = 311, in lat. column. Then with diff. lat. 513, and dep. so found, 311, in their proper columns, the course is found S. 31¼ W. and distance 600 miles.

By calculation, by Mercator's sailing.

As mer. diff. lat. 647 : diff. long. 392 :: rad. : tan. 31° 13', the course.

As rad. : diff. lat. 513 :: sect. course 31° 13' : 600, the dist.

By middle latitude sailing

As diff. lat. 513 : diff. long. 392 :: cos. mid. lat. 37° 27' : tan. 31° 14' the course.

As rad. : diff. lat. 513 :: sect. course 31° 14' : dist. 600 miles.

The corrected courses from noon of Feb. 10th till noon of Feb. 11th, being with their proper distances collected in like manner, we have the following traverse table:—

TRAVERSE TABLE.

Courses.	Dist.	Diff. Lat.		Dep.	
		N.	S.	E.	W.
E.	25.1			25.10	
W. S. W.	5.9		2.26		5.45
W. S. W. $\frac{3}{4}$ W.	16.3		3.96		15.81
N. E. by E. $\frac{1}{4}$ E.	24.4	12.54		20.93	
W. $\frac{1}{4}$ N.	11.6	.57			
N. W. by W. $\frac{3}{4}$ W.	10.2	4.36			11.59
E. $\frac{3}{4}$ N.	10.0	1.47			9.22
E. by N. $\frac{1}{4}$ N.	16.6	4.03		9.89	
N. N. W. $\frac{3}{4}$ W.	17.6	15.10		16.10	9.05
N. 33° E.	38 miles	38.07	6.22	72.02	51.12
		6.22		51.12	
		Diff. lat. 31.85 N.		Dep. 20.90 E.	

Lat. at noon, Feb. 10th 41° 36' N.
 Diff. lat. 31.8 or 32 N.

Lat. in 42 8

2) 83 44

Mid lat. 41 52

Mer. parts 2750 Long. 9° 45' W.

Mer. parts 2792 Diff. long. 28 E.

Mer. diff. lat. 42 Long. in 9 17 W.

With diff. lat. 31.85 N. and dep. 20.9 E. the course is N. 33° E. and distance 38; with the same course and mer. diff. lat. 42, in the lat. column, the diff. long. is found 27.5, E. in the dep. column. Or with mid. lat. nearly 42°, as a course, and departure 20.9 in the lat. column, the diff. long. is found 28 in the dist. column.

To find the bearing and distance of Porto Sancto by inspection, on the principles of Mercator's sailing.

Lat. in 42° 8' N.

Lat. P. 33 3 N.

Diff. lat. S. 9 5 = 545

Mer. parts 2792

Mer. parts 2103

Mer. diff. lat. 689 S.

Long. in 9° 17' W.

Long. P. Sancto 16 17 W.

Diff. long. 7 0 = 420 W.

With mer. diff. lat. 689 in lat. column, and diff. long. 420 in dep. column, the course is found S. 31° $\frac{1}{2}$ W.; with this course and the diff. lat. 545 in the lat. column, the dist. is found = 638, in the dist. column; so that owing to adverse winds the ship is thirty-eight miles further from Porto Sancto than she was at the beginning of the day.

ON SEA CHARTS.

The charts which are used by seamen are either plain charts, having the degrees of latitude and longitude equal, or charts constructed on the principles of Mercator's sailing, in which, though the degrees of longitude are made equal, the degrees of latitude vary according to the proportion which the degrees of the meridian do to those of the parallels passing through them.

Plane charts are used for mapping harbours, and other small portions of the earth's surface, and the distances of places may be found by them as well as the course nearly enough for steering a ship; but the principle of construction cannot be extended to the delineation of any considerable space, as the degrees of the parallels and those of the meridian differ greatly from each other as the latitudes increase.

To construct a plane chart.—Form on a sheet of paper a rectangle of size sufficient for the proposed extent of the chart; on the horizontal lines lay off the degrees of longitude, and on the vertical ones the degrees of latitude which it is intended the chart should comprehend, and subdivide the degrees as minutely as their size will admit, and join the corresponding degrees of latitude on the sides, and those of longitude at the top and bottom with straight lines, and write the proper degree at each division. Insert on this paper the different places according to their latitude and longitude as taken from another chart, or as determined by observation; trace the coast by a fine line, and insert every thing requisite to make the chart a complete map of the place it is intended to represent, and the whole will be a plane chart.

To construct a Mercator's chart.—Draw a line in pencil along the bottom of the paper, and a perpendicular to it up the edge. And draw two lines parallel to these, and a little way within them. From the degrees of longitude intended to be contained in the chart estimate the space that your room will permit you to allot to one of them. Lay this space off carefully on the bottom line for a degree of longitude, repeating it till you have the number of degrees which you intend the chart to contain. At the extremity of

the base draw a perpendicular, which of course will be a parallel to that drawn by the other edge of the paper. Number the degrees of longitude properly and subdivide them into halves, quarters, sixths or tenths, as their size will admit.

Next take the meridional parts corresponding to the extreme degrees of latitude which you intend the chart to contain, and dividing the meridional difference of latitude by sixty, to obtain the corresponding space in degrees and minutes on the longitude scale; take it from the bottom line, and lay it on each of the vertical ones, and join the extreme points of those lines, and you have then the boundary of the chart. In a similar way take from the longitude line the meridional difference of latitude between the lowest latitude, or that at the bottom of the chart, and every degree of latitude upwards to the extremity of the chart, and lay them upon each of the vertical lines, and you will have the points at which the degrees of latitude must be marked on the vertical lines.

Subdivide the degrees of latitude in the same manner as the degrees of longitude are subdivided; and, as the degrees of latitude differ in length, this subdivision must be made for each separately.

Next proceed to lay down the principal places on the chart according to their latitudes and longitudes, thus:—Place the edge of a parallel ruler on the parallel of latitude of the place which it is proposed to lay down, and draw a fine line in pencil through that part of the chart which contains the given longitude. Again place the edge of a parallel ruler on a meridian near the given longitude, and move it parallel to itself to the given longitude, and draw another fine pencil line across the former, and the point of section will be the required point on the chart.

In the same way determine the positions of all the principal points on the chart, and then sketch in the coast by the eye, in a fine, free, distinct line, and shade it slightly on the land side. If necessary, mark by the shading whether the coast is rocky or sandy; and note in their proper places all rocky shoals, sand banks, depth of water, nature of bottom, and places for anchoring. Lastly, in one or more convenient places draw a compass at the intersection of a meridian and parallel.

In charts constructed in this manner, the relative situations of places are properly represented, and the course from one place to another is correctly represented by the angle which a straight line drawn through both places makes with the meridian. The distance may in any case be correctly obtained from the chart from the application of the following principles.

The difference of longitude is to the departure as the enlarged distance on the Mercator's chart is to the true distance; and radius is to the cosine of the middle latitude as the difference of longitude is to the departure. Hence as radius is to cosine of the true middle latitude, so is the enlarged distance to the true distance. If therefore from the top of the chart on any meridian there be laid a scale of natural cosines, from 0° , onwards to 90° ; the distance may be found thus: take the distance on the chart between the proposed places in your compasses, and lay it on the graduated parallel, at the top of the chart ex-

actly from the end of the meridian on which the graduated line of cosines is laid down, and draw a line diagonally from the point determined by the compasses to 90° on the line of cosines. On the line of cosines find the true middle latitude, and through it draw a parallel of latitude cutting the diagonal line; the distance between the graduated meridian and the diagonal in this middle latitude, measured on the graduated parallel at the top or bottom of the chart, is the degrees and minutes of the true distance.

The method of finding the true middle latitude has been already shown, but if the diff. lat. do not exceed two or three degrees the mean middle latitude may be used instead of it.

NAUTICAL ASTRONOMY.

If the course of a ship and the distance sailed could always be correctly ascertained, the principles of navigation which we have already explained would be sufficient for conducting a ship to any part of the world. But there are many circumstances which often render the real course and distance very uncertain, and it becomes therefore of the utmost importance to be able to find the place of the ship from time to time by observation on the heavenly bodies. This application of the principles of astronomy is called nautical astronomy.

The earth is a spherical body which revolves on an imaginary line called its axis from west to east in twenty-four hours; and in consequence of this rotation the heavenly bodies appear to revolve from east to west in the same time. While the earth is thus daily performing its rotation on its axis, it is carried round the sun from west to east in a year, the axis of rotation continuing during the whole year parallel to itself; and in consequence of the comparative smallness of the orbit which it describes, when compared with the distance of the fixed stars, the axis appears to be always directed towards the same points in the heavens; and these points are called the poles of the celestial sphere.

The moon accompanies the earth in its annual revolution round the sun, and it also revolves round the earth once in a month, moving apparently among the stars, towards those that are eastward of her, and from those that are westward of her.

There are ten planets besides the earth, which like it revolve round the sun, and several of these are accompanied by smaller ones called satellites, which revolve round them as the moon the earth's satellite revolves round it. All these planets shine only by reflecting the light of the sun. Those which are further from the earth than the sun are called superior, and those which are nearer to the earth than the sun are called inferior planets. For a full explanation of the celestial motions see the article ASTRONOMY.

But it is only the apparent motions of the heavenly bodies that are the objects of consideration in nautical astronomy; and these motions would be the same as they are, if the earth were stationary and the sun revolved annually among the fixed stars in the plane of the earth's orbit; the planets at the same time performing their apparent evolutions round him on the immeas-

rably distant concavity of the celestial sphere, while that sphere, with the sun, stars, and planets, revolved daily round the earth from east to west.

The plane of the earth's orbit produced to the heavens, or that circle in the heavens in which the sun appears to move among the stars, is called the ecliptic, and circles perpendicular to it are called circles of celestial latitude. The terrestrial equator produced to the heavens is called the celestial equator; the meridians produced in like manner are called celestial meridians, and the parallels of latitude produced in the same way are called parallels of declination.

The ecliptic intersects the equator in two points called equinoctial points; that at which the sun passes from the south to the north side of the equator is called the first point of Aries; that being the first of the twelve equal parts into which astronomers divide the ecliptic. The ecliptic and equator are inclined to each other in an angle which at present is about $23^{\circ} 28'$, and the point in which they intersect has a progressive motion from west to east. See ASTRONOMY, PRECESSION.

The inclination of the equator to the ecliptic is called the obliquity of the ecliptic. The latitude of a celestial object is its distance from the ecliptic measured on a perpendicular to that circle, and the longitude of a celestial object is the arc of the ecliptic between the first point of Aries and the perpendicular to the ecliptic passing over the object; or it is the angle at the pole of the ecliptic, intercepted by two great circles, one passing through the first point of Aries, and the other over the object.

The declination of a celestial object is its distance from the equator measured on the meridian passing over the object, and the right ascension of a celestial object is the arc of the equator between the first point of Aries and the meridian passing over the object; or it is the angle at the pole of the equator intercepted between the meridian passing through the first point of Aries, and that passing over the object.

The sensible horizon is a plane touching the earth at the point at which the observer is situated, and the rational horizon is a plane passing through the centre of the earth parallel to the sensible one. The pole of the horizon over the head of the observer is called the zenith, and the opposite point the nadir.

Great circles passing through the zenith, and of course cutting the horizon perpendicularly, are called vertical circles, azimuth circles, or altitude circles. The angle which any vertical circle makes with the meridian is called the azimuth of that circle or of any object over which it passes. The vertical circle perpendicular to the meridian, or that which cuts the horizon in the east and west points, is called the prime vertical.

The amplitude of an object is its distance from the east or west at rising or setting; or the angle which the vertical circle passing over it at those times makes with the prime vertical.

Circles parallel to the horizon are called parallels of altitude, and that which is 18° below the horizon is called the twilight circle, because in a mean state of the atmosphere twilight begins

in the morning and ends in the evening when the sun is on that circle.

The polar distance of an object is its distance from the celestial pole nearest the observer.

A sidereal day is the interval between the two successive times in which a fixed star attains the same situation; and a solar day is the interval between the two successive times in which the sun arrives at the same meridian.

The sidereal day at any place commences when the first point of Aries is on the meridian of that place, and the solar or apparent day when the sun is on the meridian of the place.

Mean time is that which would be shown by the sun if it revolved on the plane of the equator with a uniform angular motion equal to the mean motion of the sun in the ecliptic.

The sidereal time of day is the angle at the pole between the meridian of the place and the meridian passing over the first point of Aries, and the apparent time of day is the angle at the pole included between the meridian of the place, and the meridian passing over the true place of the sun; and the mean time of day is the angle included between the meridian of the place and the mean place of the sun reckoned on the equator: the angles in each case being reckoned from the meridian towards the west, or in the direction of the apparent daily revolution of the heavenly bodies.

The angle included between the meridian of any place, and the meridian passing over any celestial object, is called the meridian distance of that object.

A mean solar day is longer than a sidereal one; for the sun daily advances in the ecliptic eastward so far that the mean interval between his transits is about $3'. 55.9''$. greater than the interval between the transits of a star.

The apparent altitude of a celestial object is its distance from the sensible horizon measured on a vertical circle, and the true altitude of a celestial object is its distance from the rational horizon measured also upon a vertical circle. The true and apparent zenith distances are the complements of the true and apparent altitudes, and, when an object is on the meridian of the place of observation, its altitude and zenith distance are termed its meridian altitude and meridian zenith distance.

When the altitude of an object is spoken of, the altitude of its centre is generally understood. But altitudes observed on or above the surface of the earth require several corrections before the true altitude is obtained. First for semidiameter. The semidiameter of a celestial object is the angle which the radius of its apparent circular disk subtends at the eye of the observer. If the altitude of the lower edge (or lower limb as it is called) is observed, the semidiameter is added; but, if the upper limb is observed, the semidiameter is subtracted from the observed altitude to obtain the apparent altitude of the centre.

If A B (fig. 3. plate II.) be the horizon, C the centre of the object, D its lower and E its upper limb, and A the place of the observer, then DAB is the altitude of the lower limb, EA B that of the upper limb, and CAD or CAE the semidiameter.

Second, the parallax. The angle which the radius of the earth on which the observer is situated subtends at the centre of the object is called its parallax. If the object is in the horizon it is called the horizontal parallax; if above the horizon it is called the parallax in altitude. The sines of the horizontal parallaxes of different objects are inversely as their distances from the centre of the earth. For fig. 4, plate II., ADB is the horizontal parallax of D, and ACB the horizontal parallax of C; and $AC : AD :: \sin. ADC : \sin. ACB$. Further with respect to the same object, $rad. : \sin. hor. par. : : \cos. app. alt. : \sin. par. in alt.$ For fig. 5, plate II., C is the horizontal parallax, and D the parallax in altitude; and, AC and AD being equal, we have $AC : AB :: AD : AB$; but $AC : AB :: rad. : \cos. C$; and $AD : AB :: \sin. ABD :: \cos. CBD : \sin. D$; whence $rad. : \sin. ACB :: \cos. CBD : \cos. D$.

The angle DBC is the apparent, and the angle DAF = DEC the true altitude. But $DEC = DBE + D$; hence the parallax must be added to the apparent altitude to obtain the true altitude.

Third, the dip. We have hitherto considered the observations as made on the surface of the earth, but it will seldom, especially at sea, be possible so to make the observations. The allowance that must be made for the apparent depression of the horizon arising from the elevation of the eye above the surface of the earth is called the dip. Let AC, fig. 6, plate II., be the height of the eye, AB the section of a plane parallel to the horizon, AD a line touching the earth at D, and AS a line in the plane of AB and AD drawn to the centre of the object; then BAD is the dip of the horizon, SAD the observed altitude, and SAB (the difference) the true altitude. But, in what is called a back observation, the depression of the point opposite to the sun is measured and in this case the dip is added to

the observed depression, to obtain the true depression, which is the same as the true altitude.

For (fig. 7, plate II.) if S be the celestial object, and S the point diametrically opposite to it below the horizon; then S'AB, the altitude, is equal to S'AD' the depression; and B'AD' the dip, added to S'AD' the depression below the visible horizon at D', is equal to the altitude.

The dip is computed from the following formula, where D = dip, h = height of the eye, and a = the earth's diameter.

$$\cot \frac{D}{2} = r \sqrt{\frac{h+a}{h}}$$

But from D so computed one-twelfth of itself is generally deducted for the effect of horizontal refraction.

The following TABLE of DIP was so computed—

Height of eye in feet.	Dip.	Height of eye in feet.	Dip.	Height of eye in feet.	Dip.
1	0' 59"	15	3' 49"	29	5' 18"
2	1 24	16	3 56	30	5 24
3	1 42	17	4 4	31	5 29
4	1 58	18	4 11	32	5 34
5	2 12	19	4 17	33	5 39
6	2 25	20	4 24	34	5 44
7	2 36	21	4 31	35	5 49
8	2 47	22	4 37	36	5 54
9	2 57	23	4 43	37	5 59
10	3 7	24	4 49	38	6 4
11	3 16	25	4 55	39	6 8
12	3 25	26	5 1	40	6 14
13	3 33	27	5 7	41	6 18
14	3 41	28	5 13	42	6 22

The horizontal parallax of the sun being always nearly 9", its parallax in altitude may conveniently be entered in a table.

Altitude in degrees	0°	12°	15°	30°	33°	42°	51°	60°	69°	75°	81°	90°.
Parallax in seconds	9"	9"	8"	8"	7"	6"	5"	4"	3"	2"	1"	0"

The parallax of the moon being exceedingly variable, tables of her parallax in altitude corresponding to all the variations in her horizontal parallax must necessarily be extensive. Such tables, however, are given in many practical works on navigation.—See Inman's, Norie's, Ria's and Riddle's Nautical Tables. It may, however, be readily computed thus:—Add the secant of the apparent altitude to the proportional logarithm of the horizontal parallax, and the sum will be the proportional logarithm of the parallax in altitude. The refraction is the last correction of apparent altitudes; and, whether the altitudes are observed by a back or a fore observation, this correction is subtractive. See an extensive table of refractions under the article ASTRONOMY.

From what has been said it may be inferred that, when a star is on the meridian of any place, the sidereal time at that place is equal to the star's right ascension; and that, when a star is east of the meridian, its meridian distance sub-

tracted from its right ascension, will leave the sidereal time; and, when west of the meridian, its meridian distance added to its right ascension, will give the sidereal time. Further, it appears, that the sun's right ascension, subtracted from the sidereal time, leaves the apparent time; and conversely that the sun's right ascension, added to the apparent time, gives the sidereal time.

The difference between mean and apparent time is called the equation of time.

In the Nautical Almanac, the sun's longitude, right ascension, declination, and the equation of time, are given for the instant at which the sun is on the meridian of Greenwich every day, and the moon's longitude, latitude, right ascension, declination, horizontal parallax, and semidiameter, for noon and midnight, apparent time at Greenwich, for every day.

As 360° of longitude correspond to one revolution of the earth, which is measured by twenty-four hours of time, 15° of longitude correspond

to an hour of time, 1° of longitude to four minutes of time, 1' of longitude to four seconds of time, &c.

The equation of time as given in the Nautical Almanac is intended to be applied to apparent to obtain mean time: when mean time is given, and apparent time required, the equation of time must be applied with a sign contrary to that given in the almanac.

It is evident that the difference between the times at Greenwich, whether mean, sidereal, or apparent, and the corresponding times at any other meridian is the longitude of that meridian from Greenwich west, when the Greenwich time is the greater, or more forward, and east when the Greenwich time is the less or behind. See **LONGITUDE**.

Chronometers for finding the longitude at sea, as well as clocks and watches for use in civil life, are regulated by mean time; but observatory clocks by sidereal time, for the convenience of determining the right ascensions of celestial objects by the times of their passing the meridian.

On land, when nautical instruments are used for taking altitudes, the distance of the object from its image, as reflected from a fluid or polished horizontal surface, is taken, and its half is the measure of the altitude.

The difference between the parallax of any object and the refraction corresponding to its altitude, is called the correction of altitude; and, the correction for semi-diameter and dip being first applied, this correction is additive in the case of the moon, but subtractive with respect to all other celestial objects, as the moon's parallax is greater than the refraction at any altitude; but the parallax of any other object is less than the refraction. The fixed stars have no sensible parallax.

The astronomical day commences at the noon of the civil day, and the hours are reckoned straight forward to twenty-four. Therefore in the afternoon of the civil day the hours of the astronomical and civil day are the same, but in the forenoon of the civil day they differ twelve hours. Thus April 4th at 6 h. 8 m. 5 s. civil time, is also April 4th 6 h. 2 m. astronomical time; but April 5th, 6 h. 2 m. A. M. civil time, is April 4th, 18 h. 2 m. astronomical time.

INTRODUCTORY PRACTICAL PROBLEMS.

PROB. I.—To convert longitude into time.—Multiply the longitude by 4, divide the degrees of the product by 60, and the quotient will be the hours, the remainder the minutes, and the other parts of the product the seconds, &c., in the required time.

Example.—Required the time corresponding to 83° 12' 9" of longitude?

$$\begin{array}{r} 83^{\circ} 12' 9'' \\ \quad \quad \quad 4 \\ \hline 60) 332 48 36 \end{array}$$

Hours 5:32 48 36 Ans.

PROB. II.—To convert time into longitude.

Reduce the hours into minutes, and divide the whole by 4, and the quotient will be the degrees, minutes, &c., of the corresponding longitude.

Example.—What longitude corresponds to 8h. 12m. 19s. of time?

$$\begin{array}{r} 8\text{h. } 12\text{m. } 19\text{s.} \\ 60 \\ \hline 4) 492 \quad 0 \quad 19 \\ \hline 123^{\circ} \quad 4' \quad 45'' \text{ Ans.} \end{array}$$

PROB. III.—Given the time at any place, and the longitude of that place, to find the corresponding Greenwich time.

Reduce the longitude into time, and add it to the time at the place if west, but subtract it if east, and the sum in the remainder will be the Greenwich time.

If in adding, the sum should exceed twenty-four hours, the excess will be the Greenwich time past noon on the following day; and, if in subtracting, the longitude in time should exceed the astronomical time at the place, increase the given time by 24 hours, before subtracting the longitude in time, and the remainder then will be the time at Greenwich past noon of the preceding day.

Example 1.—In longitude 18° 4' E. September 3, 8h. 5m. 10s., A. M., what is the astronomical time at Greenwich?

$$\begin{array}{r} \text{Astronom. time, Sept. 2d } 20\text{h. } 5\text{m. } 10\text{s.} \\ \text{Long. in time E. } \quad \quad \quad 1 \quad 12 \quad 16 \\ \hline \quad \quad \quad \quad \quad \quad \quad \quad 18 \quad 52 \quad 54 \text{ Ans.} \end{array}$$

Example 2.—In long. 59° 15' W. at 10h. 39m. 18s. A. M., October 8th, required the astronomical time at Greenwich?

$$\begin{array}{r} \text{Astronom. time, Oct. 7th } 22\text{h. } 39\text{m. } 18\text{s.} \\ \text{Long. in time W. } \quad \quad \quad 3 \quad 57 \quad 0 \\ \hline \text{October 7th } \quad \quad \quad 26 \quad 36 \quad 18 \\ \quad \quad \quad \quad \quad \quad \quad \quad 24 \\ \hline \text{October 8th } \quad \quad \quad 2 \quad 36 \quad 18 \end{array}$$

PROB. IV.—To take the right ascension, declination, &c., of the sun and moon, from the Nautical Almanac, for any time.

Find the Greenwich time corresponding to the time at the place, and its longitude. Then, if the object be the sun, take from the Nautical Almanac the required number for the noon preceding the instant for which it is wanted, and the change of the number in twenty-four hours. Then say, As twenty-four hours is to this daily change, so is the Greenwich time to the correction to be added to, or subtracted from, the number at the preceding noon, according as it is increasing or decreasing, to obtain its value at the required instant.

If the object be the moon, take the required number for the noon or midnight, which next precedes the given instant of Greenwich time, with its change in twelve hours. Then say, As twelve hours is to this change, so is the Greenwich time past noon or midnight to the correction to be added to, or subtracted from, the value of the required number at the preceding noon or midnight, to obtain its value at the given instant

Example.—What are the right ascension and declination of the sun, the equation of time, the right ascension, declination, horizontal parallax, and semidiameter of the moon, March 3d, 1828, at 9h 48m. 20s. P. M. in long. 65° W. ?

Time, March 3d	.	.	9h. 48m. 20s.
Longitude in time	.	.	4 20 0
			14 8 20
Greenwich time	.	.	14 8 20

Per Nautical Almanac, March 3d, 1828 :—

☉ R. A.	Daily var.	☉ Declin. S.	Daily var.	Eq. time added	Daily var.
22h. 57m. 7.4s. + 3m. 43.1s.		6° 42' 21" — 23' 3"		12' 9.7"	— 13.4"
Cor. 2 11.3		Cor. 13 34		Cor. 7.9	
22 59 18.7		6 28 47		12 1.8	

As the Greenwich time is 14h. 8m. 20s. past noon, it is 2h. 8m. 20s. past midnight. Therefore we take out the numbers for the moon for midnight of March 3d, and then change from that time till the following noon.

Per Nautical Almanac, March 3d, 1828, midnight.

☉ R. A.	Var. in 12h.	☉ Declin. S.	Var. in 12h.	☉ Hor. par.	Var. in 12h.	☉ Sem. Var. 12h.
187° 42' 4" + 6° 8' 58"		5° 1' 0" + 6° 59' 23"		56' 7" + 15"		15' 18" + 4"
Cor. 1 5 44		21 14		3		1
187 47 48		5 22 14		56 10		15 19

Hence we have 24h.	:	3' 43.1"	::	14h. 8m. 20s.	:	2m. 11.3s.	Correction of ☉'s R. A.
24	:	23' 3"	::	14 8 20	:	13' 34"	☉'s declin
24	:	13.4"	::	14 8 20	:	7.9"	Equa. of time.
And 12	:	6° 8' 58"	::	2 8 20	:	1° 5' 44"	☉'s R. A.
12	:	1° 59' 23"	::	2 8 20	:	21' 14"	☉'s declin.
12	:	15"	::	2 8 20	:	3"	☉'s hor. par.
12	:	4"	::	2 8 20	:	1"	☉'s semid.

PROB. V.—To find the true altitude of a celestial object from its observed altitude.

From the observed altitude subtract the dip; and, if the lower limb is observed, add the semidiameter; if the upper, subtract it. Then take the difference between the refraction and the parallax in altitude, and add it if the object be the moon; but subtract it if the object be the sun or a star, and the result will be the true altitude.

Example.—What is the true altitude of a fixed star, whose observed altitude is 28° 19', the height of the eye being sixteen feet?

Here there is no parallax and no semidiameter to allow for.

Observed altitude	28° 19' 0"
Dip	3 56
	28 15 4
Refract.	1 46
	28 13 18
True altitude	28 13 18

Required the true altitude of the sun, the observed altitude of his ☉ being 40° 10' 56", October 7th, 1827, height of the eye eighteen feet.

Observed altitude ☉	40° 10' 56"
Dip	4 11
	40 6 45
Semid. per Naut. Alm.	16 3
	40 22 48
Refr. 1' 7" — par. 7" =	1 0
	40 21 48
True altitude	40 21 48

Required the true altitude of the moon's centre when that of her upper limb is 56° 17' 30", her semidiameter being 16' 15", and horizontal parallax 59' 37", height of the eye thirteen feet?

Observed altitude ☉	56° 17' 30"
Dip	3 33
	56 13 57
Semidiameter	16 15
	55 57 42
Cor. of altitude	31 3
	56 28 45
True altitude	56 28 45
Paral. 59' 37" Prop. long.	4799
Sec.	2753
	4524
Par. in alt. 31' 38" Prop. long.	7552
Refraction	35
	4557
Cor. of alt.	31 3

PROB. VI.—To find the sun's declination when he is on a given meridian.

Take the declination for the noon of the given day from the Nautical Almanac, and its daily change, noting whether it is increasing or decreasing. Then say, as 360° : the daily change :: the longitude of the given meridian : the correction to be added, if the declination is increasing, and the longitude west, or if the declination is decreasing, and the longitude east; otherwise to be subtracted from the declination at noon, before taken out.

Example.—Required the sun's declination, when on the meridian of 40° W., March 4th, 1828?

Per Nautical Almanac :

☉ Declin., March 4th	6° 19' 18" S.—23' 9"	
360° : 23' 9" : : 40° : 2' 34" }	3 34	
the correction		
	<hr/>	
	6 15 44 S. Ans.	

The correction here is subtractive, as the longitude is west and the declination decreasing. See article ASTRONOMY for a table of the sun's declination with a table to adapt it to subsequent years.

To find the latitude at sea by meridian altitude.

Take the true altitude from 90°, and the remainder will be the zenith distance, to be called north when the object is south, and south when the object is north of the zenith. Reduce the declination to the time of observation. Then, if the declination and zenith distance are both north or both south, their sum is the latitude; but, if one is north and the other south, their difference is the latitude; and it is always of the same denomination as the greater.

To explain this rule, let A C (plate II. fig. 8) be the line of intersection of the planes of the meridian and rational horizon; and F D the intersection of the planes of the meridian and equator; let Z be the zenith, P the north, and E the south pole; and let S be the true place of a celestial object on the meridian; then SA is its meridian altitude, SZ its meridian zenith distance, and S F its north declination. If S' be the place of the object, then S' A is its meridian altitude, S' Z its zenith distance, and S' F its south declination. If S'' be the place of the object, then S'' C is its meridian altitude, S'' Z its zenith distance, and S'' F its north declination. Now Z F = F S'' = Z S''; which is the rule.

Example 1.—If the meridian altitude of the sun's lower limb be 50° 12' 40" S. on May 5th, 1828, in long. 23° W., height of the eye seventeen feet; required the latitude?

Per Nautical Almanac :

☉ Declin., May 5th,	16° 19' 27" N + 16' 55"
360° : 16' 55" : : 23° : }	1 4
1' 4", cor. of declin. }	
	<hr/>
Sun's declin. at time } of observation	16 30 31
Observed altitude ☉	50° 12' 40" S.
Dip	4 4
	<hr/>
	50 8 36
Semidiameter	15 52
	<hr/>
	50 24 28
Refraction 48" — paral. 5" cor.	43
	<hr/>
True altitude	50 24 45 S. 90
	<hr/>
Zenith distance	39 35 15 N.
Declination	15 30 31 N.
	<hr/>
Latitude	56 5 46 N.

In observations for the latitude at sea it is customary to consider the sun's semi-diameter as always 16', and to take all the corrections to the nearest minute. When it is not stated that the altitude is taken by a back observation, a fore observation is always understood. ☉ indicates the sun's lower, and ☽ his upper limb; ☾ the moon's lower, and ☽ her upper limb; + indicates that the number to which it is affixed is increasing, and — that it is decreasing.

Example 2.—If on February 5th, 1828, at 2h. 49m. apparent time, as deduced from a chronometer, regulated for Greenwich time, the meridian altitude of ☽ be observed to be 49° 35' S., height of the eye twelve feet; required the latitude?

In this example the Greenwich time is 2h. 49m. past midnight of February 4th. Now by the Nautical Almanac, the moon's declination, semi-diameter, and parallax, at midnight of that day, with their variations in the succeeding twelve hours, stand as under:—

	☽'s declin. S.	☽'s semidiameter.	☽'s hor. paral.
	2° 3' 57" S. + 2° 2' 15"	15' 9" + 4"	55' 35" + 15"
Cor.	28 40	1	4
	<hr/>	<hr/>	<hr/>
	2 32 37	15 10	55 39
Observed altitude ☽	49° 35' 0" S.		propor. log. 5098
Dip	3 25		
	<hr/>		
	49 21 35		
Semidiameter	15 10		
	<hr/>		
Apparent altitude centre	49 16 25		Sect 1854
Correction	35 30		
	<hr/>		
True altitude	49 51 55 S.		Par. in alt. 36' 19" Prop. log 6952
	90		Refraction 49
	<hr/>		<hr/>
			35 30 Cor. of altitude.
Zenith distance	40 8 5 N.		
Declination	2 32 37 S.		
	<hr/>		
Latitude	37 35 28 N.		

The moon's semidiameter as given in the Nautical Almanac, is that which she would appear to have if seen from the centre of the earth; if she be seen upon the horizon she will of course be nearer to the zenith of the observer, and will

therefore appear under a greater angle. This augmentation of her semidiameter may be taken with sufficient exactness for practical purposes at sea from the following table:—

Moon's apparent altitude.	0°	3°	6°	12°	15°	18°	21°	27°	30°	36°	39°	45°	48°	54°	60°	72°	90°
Augmentation of Moon's semidiameter.	0"	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"	12"	13"	14"	15"	16"

To altitude 49° we find from this table that the augmentation of the moon's semidiameter is 11"; hence, in the above example, the semidiameter ought to have been 15' 21"; but it is only in finding the longitude by lunar observation, that such nicety respecting the moon's semidiameter becomes of any practical importance in the business of navigation.

Example 3.—If the meridian altitude of Aldebaran be 28° 5' 10" N. on February 18th, 1828, height of the eye fourteen feet; required the latitude?

Observed alt.	28°	5'	10" N.
Dip	3	41	
	28	1	29
Refraction	1	47	
True altitude	27	59	42 N.
	30		
Zenith dist.	62	0	18 S.
Declination	16	9	15 N.
Latitude	45	51	3 S.

To find the latitude by the meridian altitude of an object below the pole.

To the altitude add the complement of the declination, and the sum will be the latitude, of the same name with the declination.

For (fig. 8, plate II.) FP and ZC are equal, being quadrants, and, if the common part ZP be omitted from each, there remains ZF the latitude = PC. Now if S''' be the object below the pole, then S'''C is its altitude, S'''D its declination, and S'''P the complement of its declination; and S'''C + S'''P = PC the latitude.

In taking the sun's declination, it must be noticed that he is on the meridian twelve hours after noon.

Example 1.—If the altitude of ☉ on the meridian below the pole be 10° 50' on May 20th, 1828, in long. 14° E., the height of the eye sixteen feet; required the latitude?

Time of observation	12h.	0m.
Long. in time E	56	
Greenwich time of observ.	11	4
24h. : 12 16" :: 11h. 4 : 5' 39"		
☉'s declin., May 20th, } noon, Greenw. time }	20°	2' 4" + 12 16"
Correction	5	39
Declination	20	7 43
	90	
Co-declination	69	52 17

Observed altitude	10°	50'	0"
Dip	3	56	
Semidiameter	10	46	4
	11	1	54
Refr. 4' 47"—par. 9"	4	38	
True altitude	10	57	16
Co-declination	69	52	17
Latitude	80	49	33 N.

Example 2.—If the altitude of Capella, below the pole, be 4° 14' 10", on August 10th, 1828, height of the eye thirteen feet; required the latitude?

Observed alt.	4°	14'	10"
Dip	3	33	
	4	10	37
Refraction	11	29	
	3	59	8
Co-declination	45	48	32
Latitude	49	47	40 N.

To find the latitude from the observed altitude of a celestial object, near the meridian, the time of observation being known.

If the object is the sun, the apparent time is the meridian distance; for any other object, to the apparent time add the sun's right ascension, and from the sum subtract the right ascension of the object, and the remainder is its meridian distance. If the meridian distance is more than twelve hours, subtract it from twenty-four hours. Then add together the cosine of the meridian distance, and the tangent of the polar distance and the sum, rejecting the tens from the index, will be the tangent of arc first, which will be obtuse or acute according as the polar distance is obtuse or acute. Again, add together the secant of the polar distance, the sine of the altitude, and the cosine of arc first, and the sum, rejecting the tens from the index, will be the cosine of arc second. The sum or the difference of arcs first and second will be the co-latitude; and that latitude must be taken which agrees most nearly with the latitude by account, which will always be known nearly enough to determine which of the imputed latitudes is the true one.

Let PA (fig. 9, plate II.) be the meridian on which the first point of Aries is, PS that on which the sun is, P x that on which the star is, at the moment of observation. Then if PM be the meridian of the place of observation, SPM is the apparent time, APS the same right as-

the star is at 90 or 270 its altitude is the same as that of the pole. When it is at A or D, E P or HP taken from the altitudes AM or D Q leaves P N the latitude; when at B or C, P F or P G added to B M or C Q gives P N the latitude. Now A O is the star's meridian distance at A, O A B, O B C, and O B C D, its meridian distance at B, C, and D, respectively. The difference between O B and 180° is B 180, the measure of the angle B P G and similarly A P E, G P C, and D P H, are the angles which taken as a course with A P, B P, C P, or D P, as a distance, give the corrections P E, P F, P G, and P H; the corrections to be applied to the altitudes A M, B M, C Q, and D Q, respectively to obtain the latitude P N.

Example.—The altitude of Polaris was 52° 27' 35"; at 7h. 24m. apparent time February 2d, 1828, the sun's right ascension at the time being 21h. 2m., height of the eye fifteen feet; required the latitude?

	h. m.
App. time	7 24
☉'s R. A.	21 2
<hr style="width: 50%; margin: 0 auto;"/>	
Sum	4 26
*'s R. A.	0 59
<hr style="width: 50%; margin: 0 auto;"/>	
*'s mer. dist.	3 27 = 52° nearly.
Obs. alt.	52° 27' 35"
Dip	3 49
<hr style="width: 50%; margin: 0 auto;"/>	
Refr.	52 23 '46
	41
<hr style="width: 50%; margin: 0 auto;"/>	
	52 23 5
<hr style="width: 50%; margin: 0 auto;"/>	
With 52° as a course and 99', *'s polar dist. the corr. is 61'	= 1 1 0
<hr style="width: 50%; margin: 0 auto;"/>	
Latitude	51 22 5

To find the latitude from two altitudes of the sun observed on the same day with the time elapsed between the observations.

We take the following direct rule for solving this important problem from Mr. Riddle's Treatise on Navigation and Nautical Astronomy.

Take the sun's declination for the Greenwich time which corresponds to the middle time between the two observations, and if it is of the same name with the latitude subtract it from 90°, if of a different name add it to 90°, and the sum or the remainder will be the sun's polar distance. Deduct the true altitudes from the observed ones, and, if the ship has been sailing in the interval between the observations, the first altitude must be reduced to what it would have been if taken at the same place with the second. This correction may be obtained by the following proportion. As radius is to the distance sailed, so is the cosine of the angle included between the course in the interval and the bearing of the sun at the first observation to the correction of the first altitude; to be added to it if the ship sails within less than eight points of the sun's bearing, but subtracted from it if the course is more than eight points from the sun's bearing. Or the correction may be more readily made from a traverse table,

thus. Take the angle intended between the ship's course and the sun's bearing at the first observation as a course, and with it and the distance run on the interval as a distance the correction of the first altitude for the ship's change of place will be found in the column of latitude.

Having now got the polar distance, the true altitudes, both for the place at which the second was observed, take half the interval between the two times of observation, and, reducing it into degrees, call it the half elapsed time, and proceed to compute the latitude at the place of the second observation by the following rule:—

1. Add the sine of the half elapsed time to the sine of the polar distance, and the sum, rejecting ten from the index, will be the sine of arc first.

2. Add the secant of arc first to the cosine of the polar distance, and the sum, rejecting ten from the index, will be the cosine of arc second, which will be acute or obtuse, like the polar distance.

3. Add together the cosecant of arc first, the cosine of half the sum of the true altitudes, and the sine of half their difference, and the sum, rejecting the tens from the index, will be the sine of arc third.

4. Add together the secant of arc first, the sine of half the sum of the true altitudes, the cosine of half their difference, and the secant of arc third, and the sum, rejecting the tens from the index, will be the cosine of arc fourth.

5. The differences between arc second and arc fourth is arc fifth when the zenith and the elevated pole are on the same side of the great circle passing through the apparent places of the sun at the two times of observation, otherwise their sum is arc fifth; but arc fifth can never exceed 90°.

6. Add the cosine of arc third to the cosine of arc fifth, and the sum rejecting ten from the index will be the sine of the latitude.

Note 1.—When there is any doubt whether the zenith and elevated pole are on the same or different sides of the great circle passing through the places of the sun, the latitude may be computed on both suppositions, that being considered as the true latitude which agrees most nearly with the latitude by account, which will always be known nearly enough for that purpose. This additional computation will give very little trouble, as it is only arc fifth and its cosine that will require alteration.

Note 2.—By this method the latitude may be found from two altitudes of the same fixed star; but, if the interval be in solar, it must be reduced into sidereal time, which may be done with sufficient exactness by adding to the elapsed time ten seconds for every hour or one second for every six minutes.

Note 3.—It will expedite the calculation if all the logarithms that occur at the same opening of the book are taken out at the same time, and any little mistake in the observations will produce the less error in the result, the nearer the greater altitude is to the meridian.

Note 4.—It is a curious circumstance in the history of this problem that almost all who have written upon it have introduced a correction in the wrong angle for the change of longitude be-

tween the observations ; a correction which can have no existence if the times are marked as they are presumed to be by the same watch, and the altitudes are reduced to what they would have been if taken at the same place. This error is found in Mackay's Navigation, and in his Treatise on the Longitude, and it was in the earlier editions of Norie's Navigation, but has been omitted since 1821. It is found in the article Navigation in the Encyclopædia Britannica; and even in the Encyclopædia Metropolitana, a work now in the course of publication. It has probably been owing to this remarkable circumstance that seamen have been so little disposed to rely on the results of double altitudes.

Demonstration of the rule.

Let Q, represent the sun at the place of the ship at the first observation, N A S the meridian, and B the place of the ship at the second observation. On A Q drop the perpendicular B C ; then the ship in running from A to B has advanced A C directly towards the point on which the sun bore when the ship was at A ; therefore A C added to the altitude observed at A will give what that altitude would have been if observed at B. Now N A Q is the bearing of the sun and N A B the ship's course, and B A C the

difference of those angles; and rad. : A B : : cos. B A C : A C, the correction of the first altitude. If the ship run from A to B', from the sun, then A C' computed in the same way is the correction of the first altitude, subtractive, to reduce it to what it would have been if taken at the same place as the second.

Having now obtained the altitudes, both at the place of the second observation, let Z (fig. 13 plate II.) be the zenith; P the pole; A and B the places of the sun at the two times of observation; A C, B D, the altitudes, A Z, B Z, the zenith distances; A P, B P, the equal polar distances; Z P A, and Z P B, the times of observation, or the meridian distances of the sun at the times of observation. Then A P B is the elapsed time, and, if P E be a perpendicular on A B, then A B and A P B will both be bisected by it; whence A P E or E P B will be the half elapsed time. Join E Z, and from Z on E P draw the perpendicular Z F. Then A E is arc first, E P arc second, Z F arc third, E F arc fourth, and E P arc fifth; which as the figure is drawn is the difference of arcs second and fourth; but, if Z and P had been on different sides of A B, F P would have been the sum of E P and E F.

Now rad. sin. A E = sin. A P · sin. A P E; or sin. B E = $\frac{\sin. A P \cdot \sin. A P E}{R}$; rad. cos. A P = cos. A E · cos. E P, or cos. E P = $\frac{R \cdot \cos. A P}{\cos. A E} = \frac{\sec. A E \cdot \cos. A P}{R}$; cos. A E Z = sin. Z E F = $\frac{\cos. A Z - \cos. A E \cdot \cos. E Z}{\sin. A E \cdot \sin. E Z} = \frac{\sin. A C - \cos. A E \cdot \cos. E Z}{\sin. A E \cdot \sin. E Z}$; cos. Z E B = - cos. A E Z = - $\frac{\cos. B Z - \cos. B E \cdot \cos. E Z}{\sin. B E \cdot \sin. E Z} = \frac{\sin. B D - \cos. A E \cdot \cos. E Z}{\sin. A E \cdot \sin. E Z}$. Hence we have these two equations: viz.

sin. A E · sin. E Z · sin. F E Z = sin. A C - cos. A E · cos. E Z
 And - sin. A E · sin. E Z · sin. F E Z = sin. B D - cos. A E · cos. E Z
 Or sin. A C = cos. A E · cos. E Z + sin. A E · sin. E Z · sin. F E Z
 sin. B D = cos. A E · cos. E Z - sin. A E · sin. E Z · sin. F E Z

Whence sin. A C - sin. B D = Z cos. $\frac{A C + B D}{2}$, sin. $\frac{A C - B D}{2}$ = Z sin. A E · E Z · sin. F E Z
 = 2 sin. A E · sin. Z F and sin. A C + sin. B D = 2 sin. $\frac{A C + B D}{2}$, cos. $\frac{A C - B D}{2}$ = 2 cos. A E · cos. C 2 = 2 cos. A E · cos. E F · cos. F Z.

From the first of these two latter equations we have

sin. Z F = $\frac{\cos. \frac{A C + B D}{2} \cdot \sin. \frac{A C - B D}{2}}{\sin. B E} = \frac{\cos. \frac{A C + B D}{2} \cdot \sin. \frac{A C - B D}{2} \cdot \operatorname{cosec}. A E}{\operatorname{rad}. 2}$;

and, from the second, cos. E F =

sin. $\frac{A C + B D}{2}$, cos. $\frac{A C - B D}{2}$ = $\frac{\sin. \frac{A C + B D}{2} \cdot \cos. \frac{A C - B D}{2} \cdot \sec. A E \cdot \sec. F Z}{\operatorname{rad}. 3}$.

Lastly, rad. cos. Z P, or rad. sin. at. = cos. Z F · cos. F P, whence $\frac{\cos. Z F \cdot \cos. F P}{\operatorname{rad}.} = \sin \text{ lat.}$

Example 1.—On April 4th, 1828, in lat. 35° N., long. 28° W., by account, at 8h. 10m. 40s. A. M. the alt. of ☉ was 38° 12' +, bearing by compass E. S. E; and at 11h. 22m. 14s. A. M., the alt. of ☉ was 60° 18' +, the ship having run in the interval S. W. by S. four miles per hour, height of the eye sixteen feet, required the latitude?

Here the ship is running from the sun, within seven points of that opposite to his bearing; and the distance run between the observations is about thirteen miles; whence the correction of the first altitude is about 3'.

☉	First alt.	Second alt.	Astron. times, April 3d.
Dip	38° 12' 0	60° 18' 0	20 10 40
	3 56	3 56	23 22 14
	38 8 4	60 14 4	h. m. s.
Refr. par.	1 6	29	Elapsed time, 3 11 34; 1 35 47 = 23 57 H E T
	38 6 58	60 13 35	2) 43 32 54
	16 0	16 0	Mid time 21 46 27
	38 22 58	60 29 35	Long. W. 1 52
	3	33 19 58	23 38 27 Mid time at Greenw.
True alt.	38 19 58	98 49 33	Half sum 49 24 46
			Half diff. 11 4 48
	Sum alt.	22 9 37	
	Diff.		

☉'s dec. April 3d 5° 24' 50" N + 22' 53". 24h. : 21m. 53s. : : 23h. 38m. (mid time) : 22 32" Corr.

22 32
5 47 22 decl. in mid time
90

84 12 38 polar dist.
H E T 23° 57' sin. 9·608461
Pol. dist. 84 13 sin. 9·997784 cos. 9·900318

Arc. I. 23° 49' sin. 9·606245 sect. I. 10·038654

83° 41' II. arc. cos. 9·938972 cosect. arc I 10·393821

10·038654 sect. arc.
9·880505 sin. 49° 25' cos. 9·813283
9·991823 cos. 11 5 sin. 9·283836

10·021876 sect. 18 4 arc III. sin. 9·490940

31 3 arc IV. cos. 9·932858 cos. arc III. 9·978124

52 38 arc V. cos. 9·783127

Latitude 35° 15' sin. 9·761251

Example 2.—On March 2d, 1828, in lat. 46°½ N., long. 150° E. by estimation, at 10h. 45m. 13s. A. M., the alt. of ☉ was 33° 26' + 2 bearing per compass S E½ E, and at 1h. 43m. 27s. P. M. the alt. of ☉ was 30° 4'—, course in the interval E½ S, seven miles per hour, height of the eye fourteen feet; required the latitude?

The ship in this example is running nearer the sun, within three points of his bearing at the first observation. With this the distance and run between the observations (about twenty-one miles) the correction of the first altitude is about 17' 5" = or, 17' 30" additive. The middle time corrected for longitude, is at about 14h. 14m. of March 1st, for which instant the sun's declination is 7° 14' 37" S., and consequently the polar distance is 97° 14' 37".

	First alt.	Second alt.
Diff.	33° 26' 0"	30° 4' 0"
	3 41	3 41
Refr. par.	33 22 19	30 0 19
	1 19	1 30
Semid.	33 21 0	29 58 43
	16 10	16 10
Corr. for ship's run,	33 37 10	30 14 59
	17 30	33 54 40
	33 54 40	Sum alt. 64 9 39
		Diff. 3 39 41

Times March 1st.

h.	m.	s.
22	45	13
25	43	27

Elapsed time,	2 58 14,	H E T 1h. 29m. 7s. =	22° 17'
			h. m. s.
Sum times,	48 28 40	mid time,	24 14 20
	Long. in time E.		10
	Mid time at Greenw.		14 14 20
	☉'s declin. March 1st.		7° 28' 10" S. — 22' 52"
			13 33
half sum	32° 4' 49"		
half diff.	1 49 50		
			7 14 37
			90
	Polar dist.		97 14 37

H E T	22° 17' sin.	9.578853		
Polar dist.	97 15 sin.	9.996514	cos.	9.101056
Arc I	22 6 sin.	9.575367	sect. arc I.	10.033141
	97° 50' arc II. cos		9.134197	cosect. 10.424533
			10.033141 sect. arc I	
			9.725219 sin. 32° 5'	cos. 9.928025
			9.999778 cos. 1 50	sin. 8.505045
			10.001131 sect. 4 8 arc III. sin.	8.857603
	54 55 arc IV. cos.	9.759269	cos. arc III.	9.998869
	42 55 arc V.		cos.	9.864716
		Latitude 46° 55'	sin.	9.863585

To find the latitude from the altitude of two known fixed stars.—Let Z (fig. 14, plate II.) be the zenith, P the pole, B and C two stars whose altitudes B D and C E are measured, but not at the same time, that of B being measured first.

Let B be at B' when the altitude of C is measured, and let P A be the meridian passing over the first point of Aries. Then A P B' is the right ascension of B', A P C' the right ascension of C'; and B' P B the elapsed sidereal time; which, being added to A P B', gives the right ascension of the point B; and we may then consider B and C as two stars whose altitudes are taken at the same instant.

Now in the triangle B P C are given the two

polar distances of the stars B P and P C, and the angle B P C the difference of their right ascension to find B C and the angle P B C'. To compute these, drop C F a perpendicular from C on P B; then rad. : tan. P C :: cos. B P C : tan. P F. The difference of P F and P B is F B; and cos. B F : cos. F B :: cos. P C : cos. B C; also sin. P F : sin. F B :: cos. B P C : cot. P B C.

Then in the triangle Z B C we have Z B and Z C the two zenith distances of the stars, deduced from their altitudes; and B C before computed, to find the angle Z B C, which may be found from

$$\text{this expression: } \cos. \frac{ZBC}{2} =$$

$$\sqrt{\frac{\sin. \frac{ZB + BC + ZC}{2} \sin. \left(\frac{ZB + BC + ZC}{2} - ZC \right) \text{cosect. } ZB, \text{cosect. } BC.}{\text{rad. } 2}}$$

The difference between Z B C and P B C is Z B P. Then in the triangle Z B P are now given Z B the zenith distance, and P B the polar distance of B, and the contained angle Z B P to find Z P the colatitude. To make the computation drop Z G, a perpendicular from Z on P B, then rad. : tan. Z B :: cos. Z B P : tan. B G. The difference of B P and B G is P G and cos.

BG : cos. P G :: cos. B Z : cos. Z P, or sine of the latitude.

Example.—On January 26th, 1828, in lat. 51½° N., long. 20° W. by account, at 8h. 31m. 46s., the altitude of Sirius was 18° 15' 48", and at 8h. 35m. 24s. that of Regulus was 18° 41' 48", height of the eye sixteen feet, required the latitude?

\angle A P B' R. A. Sirius	h. m. s. 6 37 36		
\angle B' P B, elapsed time	3 38	P B, polar dist. Sirius	106° 29' 29"
	6 41 14	P C, Regulus	77 11 58
\angle A P C, R. A. Regulus	9 59 14		
\angle B P C	3 18 0 = 49° 30'	Obs. alt.	18° 15' 48"
		Dip	3 56
		Ref.	18 11 52
		True alt.	18 9 0
		Zenith dis.	71 51 0
		0 Z B, 71 24 56 Z C.	

Rad.	10.000000	cos. P F 70° 43' 4"	9.518805
: tan. P C 77° 11' 58"	10.643582	cos. F B 35 46 25	9.909199
: : cos. P 49 38'	9.812544	cos. P C 77 11 58	9.345487
P F 70 43 4 tan.	10.456126		9.254686
P B 106 29 29		BC 57 1 10 cos.	9.735881
FB 35 46 25			

sin. P F 70° 43' 4"	9.974928
sin. F B 35 46 25	9.766847
cot. P 49 38	9.931499
	19.698346

P B C 62 7 23 cot.	9.723418		
CZ 76° 24' 56"	rad.		10.000000
BZ 71 51 0	cosect. 10.022165	: tan. BZ 71° 51' 0"	10.484369
BC 57 1 10	cosect. 10.076313	: : cos. Z B P 17 5 39	9.980380

2) 200 17 16

half sum, 100 8 33		sin. 9.993159	
half sum CZ 23 43 37		sin. 9.638186	B G 71 4 11 tan. 10.464749
		2) 19.773453	B P 106 29 29
Z B C	39 36 31	cos. 9.886726	G P 35 25 18
2	2		

Z B C 79 13 2		As, cos. B G 71° 4' 11"	9.511104
P B C 62 7 23		: cos. G P 35 25 18	9.911109
Z B P 17 5 39		: : cos. B Z 71 51 0	9.493466
			19.404575

Z P 38 30 43 cos. 9.893471
90

Latitude 51 29 17

If one of the altitudes be increasing, and the other decreasing, the zenith, Z, will fall between B P and C P.

To find the time at sea from the altitude of a known celestial object, at a place whose true latitude and longitude by account are known.

Add together the altitude of the object, the latitude of the place, and the polar distance of the object, and take the difference between half the sum and the object's altitude. Then add together the secant of the latitude, the cosecant of the polar distance, the cosine of the half sum,

and the sine of the remainder; reject twenty from the index of the sum, and half the remainder will be the logarithm sine of half the object's meridian distance; which being multiplied by eight will give the whole meridian distance in time.

If the object is the sun and the altitude decreasing, the meridian distance is the apparent time; if the altitude is increasing the meridian distance subtracted from twenty-four hours leaves the apparent time.

For any other celestial object, if the object is

east of the meridian, or if its altitude is increasing, subtract the meridian distance from object's right ascension; if it is west of the meridian, or if its altitude is decreasing, add the meridian distance to its right ascension, and the result will be the sidereal time, or the right

ascension of the meridian; from which subtract the sun's right ascension, and the remainder will be the apparent time.

To the apparent time apply the equation of time, and the result will be the mean time.

Investigation of the method of computing the meridian distance. In fig. 15, plate II., call Z P the colatitude, l' , the latitude l , A B, the altitude a , and A Z its complement a' , and call A P the polar

$$\begin{aligned} \text{distance } p. \text{ Then } \sin^2 \frac{P}{2} &= \frac{\sin \frac{a' + l' - p}{2} \cdot \sin \frac{p - l' + a}{2} \operatorname{cosect} l' \operatorname{cosect} p}{\operatorname{rad.} 2} = \\ &= \frac{\sin \frac{90 - a + 90 - l + p}{2} \cdot \sin \frac{p - 90 + l + 90 - a}{2} \cdot \operatorname{sect} l \operatorname{cosect} p}{\operatorname{rad.} 2} = \\ &= \frac{\cos \frac{a + l + p}{2} \cdot \sin \left(\frac{a + l + p}{2} - a \right) \cdot \operatorname{sect} l \operatorname{cosect} p}{\operatorname{rad.} 2} \text{ Whence } \sin \frac{P}{2} = \\ &= \sqrt{\frac{\cos \frac{a + l + p}{2} \cdot \sin \left(\frac{a + l + p}{2} - a \right) \cdot \operatorname{sect} l \operatorname{cosect} p}{\operatorname{rad.} 2}} \end{aligned}$$

Example 1.—If on April 19th, 1828, in lat. $43^\circ 27'$ N., long. by account 38° W. at 9 h. 4 m. 10 s. A. M., the altitude of \odot be $39^\circ 56'$, height of the eye ten feet, what is the true mean time?

	h. m. s.		Sub.
App. time, April 18th	21 4 10	\odot 's declin.	$10^\circ 55' 1''$ N. + $20^\circ 47'$ Eq. time $0 44 + 13$
Long. in time W.	2 32 0	Cor. for given time	20 25 13
Greenwich time by acct.	23 36 10	True declin.	11 15 26 90

78 44 34 polar dist

Alt.	40° 7' 48				
Lat.	43 27 0	sect. . . . .	.139078	Obs. alt. \odot	39° 56' 0" +
Polar dist.	78 44 34	cosect. . . . .	.003437	Dip	3 7
	2) 162 19 22				39 52 53
	81 9 41	cos. . . . .	.9186538	Refr. par.	1 1
	41 1 53	sin. . . . .	.9817216		39 51 52
			2) 19.151269	Semidiameter	15 56
	22° 6' 39"	sin. . . . .	.9575634	True alt.	40 7 48
	8				

H	2 56 53 12 mer. dist.
	24
	21 3 7 app. time.
	57 equa. sub.
	21 2 10 mean time.
	21 4 10 time by watch.
	2 0 watch fast.

Example 2.—If on August 15th, 1828, in lat. $20^\circ 10'$ S. long. by acct. 6° E., at 10 h. 27 m. 13 s. P. M. per watch, the altitude of Antores be $38^\circ 14'$, height of the eye 17 feet; required the true mean time?

Time per watch	10 h. 27 m. 13 s
Long. by acct. in time E.	24
Greenwich time by acct.	10 3 13

For this time, per Nautical Almanac, the sun's R. A. is 9 h. 41 m. 13 s., the equation of time 4 m. 5 s. add.; the polar distance of Antores $63^\circ 57' 33''$, and its right ascension 16 h. 18 m. 56 s.

Obs. alt. . .	38° 14' 0"
Dip . . .	4 4
	<hr/>
	38 9 56
Refr. . . .	1 13
	<hr/>
True alt. :	38 8 43

Alt.	38° 8' 43		
Lat.	20 10 0	sect.	10-027476
Polar dist. .	63 57 33	cosect. . . .	10-046492
	<hr/>		
	2) 122 16 16		
	<hr/>		
	61 8 8	cos.	9-683713
	22 59 25	sin.	9-591704
			<hr/>
			2) 19-349385
			<hr/>
	28° 13' 2"	sin.	9-674692
			8

		H	
Mer. dist. . .	3 45 44	16	
*'s R. A. . .	16 18 56		
	<hr/>		
Sidl. time . .	20 4 40		
	9 41 13		
	<hr/>		
App. time . .	10 23 27		
Equa. time . .	4 5 add		
	<hr/>		
Mean time . .	10 27 32		
Time by watch .	10 27 13		
	<hr/>		
Watch slow . .		19	

The nearer the object is to the east or west, when the altitude of it is taken for time, the better

To find the error and rate of a chronometer from equal altitudes of the sun observed in the fore and afternoon of two successive days.

Deduct the time by the chronometer for the altitude of the first forenoon from the time by the chronometer for the altitude of the second forenoon increased by twenty-four hours; the remainder will be the interval between the two observations. Do the same with the times of the altitudes of the two afternoons, in order to have the interval of time between them.

The difference between half the sum of those intervals and forty-eight hours will be the rate of the chronometer, or its daily gain or loss; gaining if the half sum exceeds, but losing if it is less than forty-eight hours.

Take the difference between the two intervals already found, and likewise the interval between the times of the first two observations of equal altitudes. Add together the logarithms of these two intervals, in seconds, and 4.46143, and the sum, rejecting the tens from the index, will be the logarithm of a correction to be added to, or subtracted from, half the interval between the first two observations, according as the interval between the observations on the forenoons is greater or less than the interval between those on the afternoons. The sum or remainder added to the time of the first forenoon will give the time of true noon by the chronometer on the first day of observation.

Hence by applying the equation of time the error of the chronometer for mean time may be found.

The following is the investigation of the rule, which was first published by J. de Mendoza Rios, but without demonstration, in his Nautical Tables.

Let n = the complete days between the ob-

servations, then $n + 1$ = the days between the corresponding forenoon or afternoon observations. Put m = the seconds in twenty-four hours, A = the apparent time of the first observation, B that of the second, and $A \pm D$ = that of the third; then $B \mp D$ will differ from the time of the fourth by a quantity too minute to be worth attention.

Hence $(n + 1 . m + A \pm D) - A = \overline{n + 1 . m \pm D}$ = the first interval; and $(n + 1 . m + B \mp D) - B = \overline{n + 1 . m \mp D}$ = the second interval. The sum of these intervals is $2 . n + 1 . m$, whence the difference between the sum of the intervals as measured by the chronometer, and $2 . n + 1 . m$, is the gain of the chronometer in $2 . n + 1$ days. If $n = \odot$, or the observations are made on two successive days, then half the difference between the sum of the intervals and $2m$ will be the rate or the gain or loss per day.

Again, $(n + 1 . m \pm D) \oslash \overline{(n + 1 . m \mp D)} = \pm 2D$; and if we put i = the interval in seconds in 24 h. $+ B - A$, the time between the first and second observations, and e = the change in the hour angle resulting from the change of declination in the interval i , we have $\overline{n + 1 . m} : 2D :: i : 2e$; or $\frac{D i}{2n + 1 . m} = \frac{e}{2}$

the correction to be applied to the half interval, or to the middle time between this observation, to obtain the time of true noon.

If $n = 0$, then $\frac{e}{2} = \frac{D i}{2m}$, or $\log. \frac{e}{2} = \log. 2D + \log. i + (10 - \log. 4m) = \log. 2D + \log. i + 4.46143$.

Example.—If on May 7th and 8th, 1828, at Portsmouth, to four sets of equal altitudes of the sun's lower limb I find the times as under, required the error and rate of the chronometer?

	Times in the Forenoon.			Times in the Afternoon.		
	h.	m.	s.	h.	m.	s.
May 7th	8	35	48	2	31	35
May 8th	8	38	19	2	28	12
Intervals	{ 24	2	31	23	56	37
	{ 23	56	37			
	47	59	8			
	48					
Difference			52			
Half difference			26	rate losing.		
Difference of intervals		5	54	=	35	4 s.
Interval between observations on 7th	5	55	47	=	21	347
Half interval	2	57	53.5			
Correction			21.9			
Time of first observation	8	35	48			log. 1.3397
True time of noon 5th	11	34	3.4			
Equation of time with contrary sign		3	41			
Mean noon per chronometer	11	37	44.4			
Chronometer slow		22	15.6			

To find the longitude by a chronometer.

Take an altitude of a celestial object, or rather a series of altitudes at short intervals of time, noting the time of each altitude.

Take the mean of the times and the mean of the altitudes. To the mean of the times apply the last known error of the chronometer, adding if it was slow, and subtracting if it was fast. Multiply the rate by the number of days elapsed since the first error was determined, and add the product to the above corrected time if the chronometer is losing, but subtract it from it if gaining. To the result add the longitude of the place for which the error is found if west, but

subtract it if east, and the sum or remainder will be the mean time at Greenwich. For that instant take the equation of time, and apply it with a contrary sign, and the result will be the apparent time at Greenwich.

Then, with the mean corrected altitude, the latitude of the place, and the polar distance of the object, find its meridian distance, and thence the apparent time at the place of observation; and the difference between that time and the apparent time found at Greenwich, found as above, will be the longitude of the place in time, west if the Greenwich time is greater or before, but east if the Greenwich time is less or behind the time at the place of observation.

Example 1.—On June 5th, 1828, my chronometer was 5 m. 37 s. slow, and on June 15th, 4 m. 27 s. slow, for mean time at Greenwich. On July 3d, in lat. 30° 25' N. at 6 h. 49 m. 43 s. P. M., by the chronometer the altitude of ☉ was 26° 48' —, height of the eye fifteen feet; required the longitude?

	m. s.		From June 15th to July 3d is
Chron. slow, June 5th	5 37		eighteen days.
15th	4 27		s. s. m. s.
Gain in ten days	1 10	= 70 s.	7 × 18 = 126 = 2 6, gain from rate.
$\frac{70}{10} = 7$ s. rate gaining.			At 6h. 48 m. July 3d, the sun's declination is 22° 56' 36" N. whence his polar distance is 67° 3' 24".
Time by chronometer, July 3d	h. m. s.		Obs. alt. ☉ 26° 48' 0"
Chronometer slow, June 15th	6 49 43		Dip 3 49
	4 27		26 44 11
Gain from rate	6 54 10		Refr. par. 1 45
	2 6		26 42 26
Mean time at Greenwich	6 52 4		Semid. 15 46
Equation of time with contrary sign	3 50		True alt. 26 58 12
Apparent time at Greenwich	6 48 14		

Alt.	. . . 26° 58' 12"				
Lat	. . . 30 25 0	sect.	. . . 064308		
Polar dist.	. . . 67 3 24	cosect.	. . . 035792		
	<hr style="width: 50%; margin: 0 auto;"/>				
	2) 124 26 36				
	<hr style="width: 50%; margin: 0 auto;"/>				
	62 13 18	cosin.	. . . 9.668434		
	35 15 6	sin.	. . . 9.761303		
	<hr style="width: 50%; margin: 0 auto;"/>				
		2) 19.529837			
	<hr style="width: 50%; margin: 0 auto;"/>				
	35 29 13	sin.	. . . 9.764918		
H	<hr style="width: 50%; margin: 0 auto;"/>				
	8				
Mer. dist.	. . . 4 43 53 44	apparent time at place of observation.			
	. . . 6 48 14	ditto Greenwich.			
	<hr style="width: 50%; margin: 0 auto;"/>				
Long. in time	2 4 20 W.	= 31° 5' W.			

Example 2.—If on May 10th, 1828, at Cape Town, long. 18° 23' E., I find my chronometer 1 h. 30 m. 26 s. slow, and on June 3d, at James Town, St. Helena, long. 5° 43' W. 5 m. 28 s. fast; and on July 12th, in lat. 20° 3' N., on my voyage homeward to England, the altitude of ☉ be 29° 25' —, at 7 h. 1 m. 25 s. by the chronometer, height of the eye twenty feet, required the longitude?

The longitude of Cape Town, in time, being 1 h. 13 m. 32 s. east, if the chronometer were right for Greenwich time it would be 1 h. 13 m. 32 s. slow for time at Cape Town. But it is 1 h. 30 m. 26 s. slow for time at that place, whence it is 16 m. 54 s. slow for Greenwich time on May 10th. In the same manner if the chronometer were right for Greenwich time it ought to be 22 m. 52 s. fast for time at James Town, whereas it is only 5 m. 28 s. fast for time at that place. Consequently, on June 3d, it is 17 m. 24 s. slow for Greenwich time.

Chron. slow for Greenwich time, May 10th . . .	16 m. 54 s.
Ditto June 3d . . .	17 24

Loss in 34 days . . . 30 rate .9 s. losing.

From June 3d till July 12th is 39, and 39 × .9 = 35 s. loss from the rate.

	h.	m.	s.		
Time by chronometer, July 12th . . .	7	1	25	Obs. alt. ☉ . . .	29 25 0
Chronometer slow, June 3d . . .		17	24	Dip	4 24
	<hr style="width: 50%; margin: 0 auto;"/>				
	7	18	49		29 20 36
Loss from rate since June 3d . . .		35		Refr. par. . . .	1 33
	<hr style="width: 50%; margin: 0 auto;"/>				
Mean time at Greenwich	7	19	24		29 19 3
Equation of time with contrary sign . . .		5	15	Semid.	15 46
	<hr style="width: 50%; margin: 0 auto;"/>				
Apparent time at Greenwich	7	14	9	True alt.	29 34 49

At 7 h. 16 m. P. M. July 12th, the sun's polar distance 68° 4' 36".

Alt.	. . . 29° 34' 49"				
Lat.	. . . 20 3 0	sect.	. . . 027152		
Polar dist.	. . . 68 4 36	cosect.	. . . 032599		

2) 117 42 25

	58 51 12	cosin.	. . . 9.713685		
	29 16 23	sine	. . . 9.689284		

2) 19.462720

	32 35 47	sin.	. . . 9.731360		
	3				

Apparent time at place of observation	4 20 46 16				
Ditto Greenwich	7 14 9				

Longitude in time 2 53 23 W. = 43° 20' 45" W.

To find the longitude by lunar observation, that is by the distance of the moon from the sun or a star, with the altitudes of both objects; the latitude of the place of observation being known, as well as the time and longitude by account.

With the time and the longitude by account, find the Greenwich time by account, and for that time take the moon's semidiameter and horizontal parallax from the Nautical Almanac, and to the semidiameter apply the augmentation corresponding to the altitude.

Correct the altitudes for semidiameter and dip, and call the results the apparent altitudes. Correct them further for the parallax and refraction, and the results will be the true altitudes.

If the sun is one of the objects observed, the distance observed will be that of the nearest limb; therefore, if the sum of the semidiameters be added to it, the apparent distance of the centres, as seen at the surface of the earth, will be obtained. If the observed distance is that of a star from the moon's nearest limb, add the moon's semidiameter to the observed distance; if it is from the farther or most remote limb, subtract the moon's semidiameter from the observed distance, for the distance of the star from the moon's centre as seen at the surface of the earth.

From the altitudes and apparent central distance of the objects compute what the distance would have been if the observer had been at the centre. There are many methods by which this computation may be made. We give the following from the formula of Banda. See LONGITUDE in this Encyclopædia.

Place under each other, in order, the apparent distance, and the apparent altitudes of the objects, half the sum of the three arcs, and the difference between the half sum and the apparent distance. Below place the true altitudes and half their sum.

Then add together the secants of the apparent altitudes, the cosine of half the sum of the apparent altitudes, and apparent distance, the cosine of the difference between that half sum and the apparent distance, and the cosines of the true altitudes, and from the sum of these six logarithms (rejecting twenty from the index), subtract twice the cosine of half the sum of the true altitudes, and half the remainder will be the sine of an arc. And the cosine of that arc added to the cosine of half the sum of the true altitudes (rejecting ten from the index of the sum) will be the sine of half the true distance, or that which the objects would have had if the observer had been at the centre of the earth.

With this distance enter the Nautical Almanac, pp. 8, 9, 10, or 11, of the month, and take the two distances of the moon from the object between which the true distance falls, and write them under the true distance in the order in which they stand in the Almanac. Take the difference between the middle one of these three distances and each of the others, and subtract the proportional logarithm of the greater difference from that of the less, and the remainder will be the proportional logarithm of a portion of time, which, added to the time corresponding to the first distance taken from the Almanac, will be the Greenwich time. If the true distance be found in the Nautical Almanac, the apparent time at Greenwich will be found above it.

Having now found the Greenwich time, find the time at the place of observation from the altitude of one of the objects in the latitude of the place; the polar distance and right ascension of the object; and the difference between that time and the Greenwich time found from the distance will be the longitude of the place in time, west when the Greenwich time is before, but east when it is behind, that at the place of observation.

Example 1.—On March 27th, 1828, in latitude 35° 10' N., longitude by account 31° 30' W., at 10 h. 2 m. 12 s. P. M. per watch, the altitude of ♀ was 60° 46' —, of Spica 25° 45' 30" +; distance of * from ♀'s farthest limb 54° 7' 40", height of the eye sixteen feet; required the longitude?

Time by watch . . .	h. m. s.	♀'s semid.	10 57	♀'s hor. par.	54 45
Longitude by acct. . .	2 6	Aug. . .	13		
Greenwich time by acct.	12 8 12		15 10		
Obsd. alt. ♀ 60° 46' 0"	*'s obsd. alt. 25° 45' 30"	hor. par.	prop. log.	.5169	
Semid. . . 15 10	Dep. . . . 3 56	♀'s app. alt.	sat. . .	.3070	
Dip. . . . 60 30 50	App. alt. . . 25 41 34	27' 0"	prop. log.	.8239	
	Refr. . . . 1 58	32 refr.			
♀'s app. alt. 60 26 54	True alt. . . 25 39 36	26 28 cor.	♀'s alt.		
Cor. . . . 26 28					
♀'s true alt. 60 53 22					
	Obsd. dist. ♀'s f. l. . .	54° 7' 40"			
	♀'s semid.	15 10			
	Apparent central dist.	53 52 30			

☾'s app. alt.	60° 26' 54		sect. 10°306969
*'s ditto	25 41 34		sect. 10°045211
App. dist.	53 52 30		

2) 140 0 58

Half sum	70 0 29		cos. 9°533885
Half sum—app. dist.	16 7 59		cos. 9°982552
☾'s true alt.	60 53 22		cos. 9°687086
*'s ditto	25 39 26		cos. 9°954918

2) 86 32 48 39°510615

Half sum	43 16 24	2 cos.	19°724374 cos. 9°862187
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2) 19°786241

51° 25' 47"	sin.	9°893120	cos. 9°794818
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26° 59' 49"	sin.	9°657005	
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2

True distance . . . 53 59 38

True dist.	53° 59' 38"		
IX	55 22 43	Diff. 1 23 5	Prop. log. 3358
Per Naut. Alm. dist. at midnight	53 51 34	1 31 9	ditto . 2955

		h. m. s.	
Time past IX hours . . . . .	. . . . .	2 44 2	ditto . 403

9

Greenwich time 11 44 2

For this time the sun's right ascension is 0 h. 26 m. 29 s., the star's right ascension 13 h. 16 m. 11 s., and polar distance 100° 15' 49".

*'s true altitude	25 39' 36		
Latitude	35 10 0	sect.	10°087023
*'s polar distance	100 15 49	cosect.	10°007005

2) 161 5 25

80 32 42	cosin.	9.215565	
55 43 6	sine.	9°917127	

2) 19°226720

24 14 20	sin.	9°613360	
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8

*'s mer. dist.	3 13 55		
*'s R. A.	13 16 11		

Sidl. time	10 2 16		
☉'s R. A.	0 26 29		

App. time at place	9 35 47		
Greenwich time	11 44 2		

Long in time W. . . . 2 8 15 = 32° 3' 45"

Example 2.—On August 5th, 1828, in latitude 20° 3' N., longitude by account 20° E., at 7 h. 0 m. 20 s. A. M. by watch, the altitude of ☉ was 19° 20' + of ☽, 77° 37' +, distance of nearest limbs 59° 23' 41", height of the eye eighteen feet; required the true longitude?

h. m. s.			
19 0 20	By watch, August 4th.	☽'s semid. . . 15 0	par. . . 55 0
1 20 0	Long. by acct. E.	Aug. 15	

17 40 20 Greenwich time by acct. 15 15 ☉'s semid 15 48

Obsd. alt. ☉	19° 20' 0"	☽	77° 37' 0"	Obsd. dist. n. l's.	59° 23' 41"
Dip. . . .	4 11		4 11	☉'s semid. . . .	15 48
				☽'s semid. . . .	15 15
Semid. . . .	19 15 49		77 32 49	App. cent. dist.	59 54 44
	15 48		15 15		
☉'s app. alt.	19 31 37	☽'s app. alt.	77 48 4	☽'s par. prop. log.	.5149
Cor.	2 32		11 25	☽'s app. alt. sect.	.6750
☉'s true alt.	19 29 5	☽'s true alt.	77 59 29		
				11' 38" prop. log.	1.1899
				Refr.	13

11 25 cor. ☽'s alt.

☉'s app. alt.	19° 31 37"	sect.	10.025725
☽'s ditto	77 48 4	sect.	10.675088
App. dist.	59 54 44		

2) 157 14 25

Half sum	78 37 12	cos.	9.295161
Half sum ∞ app. dist.	18 42 28	cos.	9.976427
☉'s true alt.	19 29 5	cos.	9.974388
☽'s ditto	77 59 29	cos.	9.318187

2) 97 28 34 39.264976

Half sum true alt.	48 44 17 2	cos.	19.638434	cos.	9.819217
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2) 19.626542

40° 34 55"	sin.	9.813271	cos.	9.880496
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30° 3' 24"	sin.	9.699713
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2

60 6 48 true dist.

True dist.	60° 6' 48"	Diff.	1° 14' 59"	Prop. log.	3803
XV	61 21 47		1 24 10	ditto	3301
Per Naut. Alm. dist. at XVIII.	59 57 37				

h. m. s.	ditto	502
2 40 21		
15		

App. time at Greenwich 17 40 21

The sun's polar distance at this time is 72° 59' 15".

☉'s true altitude	19 29 5	sect.	10.027152
Latitude	20 3 0	cosect.	10.019433
☉'s polar distance	72 59 15		

2) 112 31 20

56 15 40	cosin.	9.744613
36 46 35	sin.	9.777202

2) 19.568400

37° 28' 28"	sin.	9.784200
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8

☉'s mer. dist.	4 59 48
------------------------	---------

24

19 0 12	app. time at place of observation.
17 40 21	ditto . . . at Greenwich.

Long. in time E. 1 19 51 = 19° 57' 45".

It may frequently happen that the objects are too near the meridian to deduce the true time at the place of observation from either of the altitudes with required exactness; or, though the altitudes may be exact enough to use in clearing the distance, they may not be sufficiently so for deducing the time from them. In either case the error of the watch must be found from some other observation, and this error, being applied to the time at which the lunar distance is taken, will give the time at the meridian at which the observation for the error of the watch was taken, and the longitude thence deduced will be the longitude not of the place at which the distance is observed, but of that for and at which the error of the watch was found. In this manner may the results of a great many lunar observations be all referred to one place, and the situation of the ship at that time determined with a certainty to which the result of one observation can have no claim. The situation of the ship being thus determined by lunars, her longitude may be kept by the chronometer, till another opportunity is afforded to determine her place with precision by another series of lunars.

The latitude used in computing the time is understood to be obtained from the course and distance run since the last observation for the latitude. An error of a few degrees in the longitude by account, or of half an hour in the time by account can be of very little importance, as the Greenwich time by account, which they are used in finding, is only employed in taking out the semidiameter and horizontal parallax of the moon from the Nautical Almanac, and these vary in general but a few seconds in twelve hours; the parallax sometimes twenty-four seconds; and this is about its maximum variation in twelve hours.

If the time is not computed from either of the altitudes taken with the distances, the time of observation by a watch must be carefully noted, and the error of that watch found from some other observation; but, if the time is computed from one of the altitudes used in the lunar, no great care is required in noting the time.

When speaking of altitudes and distances, it must always be understood that the means of several altitudes and distances are meant, when it is possible to obtain them.

An observer may himself take both the altitudes and distances, first taking an altitude of each object, then a series of distances, and again the altitude of each object, carefully noting the times, and then finding by proportion what the altitudes must have been at the time of the mean distance.

It may however frequently happen that the distances may be observed when from darkness or fog the horizon cannot be seen, and consequently the altitudes cannot be obtained. The altitudes must then be computed, and the method of computing them is shown in the following problem.

The latitude of a place and the time being known, and the longitude by account, to compute the altitude of any known celestial object.

If the object be the sun, the apparent time is the meridian distance, if less than twelve hours, but if it is more than twelve hours its complement to twenty-four hours is the meridian distance.

For any other celestial object, to the apparent time add the sun's right ascension, reduced to the given instant of Greenwich time, and from the sum subtract the object's right ascension, and the remainder will be the meridian distance of the object. If it exceed twelve hours take its complement to twenty-four hours as the meridian distance.

With the latitude of the place, the polar distance of the object, and its meridian distance in degrees, proceed to compute the altitude as follows:—

Add together the cosine of the meridian distance and the cotangent of the latitude, and the sum rejecting ten from the index will be the tangent of arc first.

If the meridian distance is greater than 90° take the sum of arc first and the polar distance, otherwise their difference, for arc second.

Add together the secant of arc first, the cosine of arc second, and the sine of the latitude, and the sum rejecting the tens from the index will be the sine of the true altitude.

If the apparent altitude is required, take the correction corresponding to the true altitude, and apply it with a contrary sign to the true altitude, and the result will be the approximate apparent altitude. From this approximate apparent altitude take out the correction, and, applying it with a contrary sign to the computed true altitude, the corrected apparent altitude will be obtained.

In fig. 9, plate II., if A, S, and x , represent the places of the first point of Aries the sun and the star respectively, P the pole, and M the meridian of the plane; then LLM the apparent time is the sun's meridian distance, if it exceed twenty-four hours, the time deducted from twenty-four hours leaves the meridian distance on the other side of P.M. In the case of a star the sun's right ascension AFS, added to the apparent time SPM, gives APM the sidereal time; and from APM, the star's right ascension AP x being taken, the remainder xPM is the star's meridian distance. Let xPM, in fig. 8, plate II., be represented by AP z , fig. 15, plate II., z being the zenith, AB the altitude, and AP the polar distance of the object A. Now

$$\tan. PC = \frac{\tan. Pz \cdot \cos. P'}{\text{rad.}} = \frac{\cot. \text{lat.} \cdot \cos. P'}{\text{rad.}}$$

whence PC is arc first. When P is acute the difference of PC and PA is CA arc second, otherwise their sum is CA; and $\cos. PC : \cos. AC :: \text{or } Pz \text{ (or } \sin. \text{lat.}; \text{ and } \cos. Az), \text{ or } \sin. AB \text{ the altitude; whence } \sin. AB = \frac{\cos. AC \cdot \sin. \text{lat.}}{\cos. PC} = \frac{\text{sect. } PC \cdot \cos. AC \sin. \text{lat.}}{\text{rad. } 2.}$

Example 1.—What are the true and apparent altitudes of the sun October 3d, 1828, at 3h. 4m. 12s. mean time, in lat. 40° 12' N., long. by account 18° W.

Mean time at place	h. m. s.	Equa. time	h. m. s.
Equa. time with contrary sign	3 4 12	Correc. for given time	11 1 sub + 18s.
	+ 11 4		3
App. time at place	3 15 16 = 48° 49'	True equa.	11 4
Long. in time W.	1 12 0	☉'s declin.	4° 3' 7" S. + 23' 13"
	4 27 16	Correction	4 18
			4 7 25
			90
			94 7 25
Mer. dist.	48° 49'	cos. 9'818536	
Lat.	40 12	cot. 10'073110	sin. 9'809868
Arc I.	37 55	tan. 9'891646	sect. 10'102975
Polar dist.	24 7		
Arc II.	56 12	cos 9'745306	
		True alt. 27° 4' 0" sin. 9'658149	
		Correction with contrary sign + 1 43	
		App. alt. 27 5 43	

Example 2.—On March 9th, 1828, in lat. 36° 27' N., long. 35° W., at 7h. 2m. 10s. P. M., mean time, required the true and apparent altitudes of Procyon ?

Mean time at place.	h. m. s.	The sun's R. A. at 9h. 11m. 32s. is
Equa. time with contrary sign	7 2 10	23h. 21' 7s., the *'s R. A. 7h.
	10 38	30m. 19s. and polar dist. 84° 21'.
App. time at place	6 51 32	
Long. in time, W.	2 20 0	
App. time at Greenwich	9 11 32	
	h. m. s.	
	6 51 32	app. time
	23 21 7	☉'s R. A.
	6 12 39	
	7 30 19	*'s R. A.

* mer. dist.	1 17 40 = 19° 25'	cos. 9'974570	
Lat.	36 27	cot. 10'131584	sin. 9'773875
Arc I.	51° 56'	tan. 10'106154	sect. 10'210012
	84 21		
Arc II.	32 25	cos. 9'926431	
True alt.	54° 25' 0"	sin. 9'910318	
Refr.	41		
App. alt.	54 25 41		

In computing altitudes it is absolutely necessary that the apparent time for the meridian of the place of observation should be known; therefore, when the error of the watch is found for some other meridian, the difference of longitude made from that meridian to that of the place of observation must be applied to the time shown by the watch, adding it if east, but subtracting it if west, to obtain the time at the place of observation. Let t = the time shown by the watch, e its error as found by observation, l' the difference of longitude made subsequently, and T the true time. Then $T = t \pm e \pm l'$, l' being reduced to time, and $e +$ when the watch is slow and $-$ when fast, and $l' +$ when the difference of longitude is east, and $-$ when west.

Example.—On May 4th, at 3 P. M., by observation I found my watch 3m. 10s. fast, after sailing westerly, and making thirty-five miles difference of longitude, I wanted at 9h. 6m. 10s. by the watch to compute the altitude of a star, what was the true time at the place of observation ?

Time by watch	h. m. s.
Error fast at 3 P. M.	9 6 10
	3 10
Time at the meridian where error was found	9 3 0
Long. made since, W.	2 20
Time at place of calculation	9 0 40

If the error was in mean time, this must be reduced to apparent time by applying the equation of time with a contrary sign.

To find the variation of the compass.—If the bearing of any object by the compass be compared with its known bearing, the variation or deviation of the points of the compass from their corresponding points in the horizon becomes of course immediately known; the difference of the true and observed bearing being the variation.

Now when an object is on the meridian its true bearing is either due north or due south; hence the deviation of an object from the meridian as observed by the compass, when the object is known to be on the meridian, is the variation of the compass; west when the object bears to the right; and east when it bears to the left of the meridian.

Again, the middle time between equal altitudes of a celestial object being the time of its being on the meridian, the middle point between those on which it bears when it has equal altitudes is its bearing when on the meridian; hence if this middle point be to the right of the meridian the variation is west; if to the left the variation is east.

Example 1.—The sun at noon was observed to bear S. by W. $\frac{1}{2}$ W., what was the variation? S. by W. $\frac{1}{2}$ W. is $1\frac{1}{2}$ point to the right of S. therefore the variation is $1\frac{1}{2}$ point W.

Example 2.—The sun, when he had equal altitudes on the same day, bore N. N. E. and N. W. by W.; what was the variation?

The middle point between N. N. E. and N. W. by W. is N. by W. $\frac{1}{2}$ W., the bearing of the sun

Example. If on Oct. 11th, 1828, in lat. $50^{\circ} 46'$ N., long. $17^{\circ} W.$, the sun rise E. $20^{\circ} S.$ by compass at 6h. 32m. A. M., required the variation?

	h.	m.
Time Oct. 11th	18	32
Long.	1	8
	<hr/>	
Greenw. time	19	40

☉'s declination at this time	$7^{\circ} 3' S.$	sin. 9.088970
Lat.	$50 46$	sect. 10.198953
Fine amp.	E. 11 11 S.	_____
Obs. do.	E. 20 0 S.	sin. 9.287923

Variation $8 49, W.$ the true bearing being to the left of the observed.

To compute the true azimuth of any celestial object from its altitude, polar distance, and the latitude of the place of observation.

Add together the altitude, latitude, and polar distance, and take the difference between half the sum and the polar distance. Then add together the secant of the altitude, the secant of the latitude, rejecting ten from the index of each, the cosine of the half sum, and the cosine of the remainder, and half the sum of these four loga-

when on the meridian, which being $1\frac{1}{2}$ point to the left of N., the variation is $1\frac{1}{2}$ point east.

The variation of the compass may also be found by the amplitudes of celestial objects. But, as from the effect of refraction they appear in the horizon when they are about $33'$ below it, the centre of the sun, or a star, ought to be about $33' + W.$ dip above the horizon, when their amplitude is observed to compare with their true computed amplitude to find the variation. Or the lower limb of the sun ought to be about $17' +$ the dip above the horizon.

To compute the true amplitude, add together the secant of the latitude, and the sine of the object's declination, and the sum rejecting ten from the index will be the sum of the true amplitude, east when the object is rising, and west when setting; north when the declination is north, and south when it is south. Then if the true and observed amplitude, be both north or both south, their difference, otherwise their sum, is the variation; westerly when the true amplitude is to the left of the observed, and easterly when the true altitude is to the right of the observed.

Let P, fig. 16, plate II., be the pole, A the east or west points of the horizon, CB or C' B, the declination of the object at rising or setting, then AC or A C' is the amplitude, BC or B' C the declination, and BAC or B' A C' the colatitude; and $\text{rad. sin. } BC = \text{sin. } A C \cdot \text{sin. } BAC,$ whence $\text{sin. } A C = \frac{\text{r sin. } BC}{\text{sin. } BAC} = \frac{\text{r. sin. } BC}{\text{cos. lat.}}$
sect. lat. sin. declin.
rad.

arithms will be the sine of half the azimuth, to be reckoned from the north in south latitude, and from the south in north latitude, eastward when the latitude is increasing, and westward when it is decreasing.

Then, when the true and observed azimuths are both east or both west, their difference is the variation, otherwise their sum is the variation, westward when the true is to the left, and eastward when it is to the right of the observed.

For, adopting the notation employed in computing the meridian distance of a celestial object, we have (fig. 10, plate II.)

$$\cos \frac{a+l+p}{2} \cdot \cos \frac{a+l+p}{2} = v \cdot \text{sect. } l \cdot \text{sect. } a$$

$$\cos \frac{A 2 P}{2} = \text{sin. } \frac{2 A Z C'}{2} = \frac{\cos \frac{a+l+p}{2} \cdot \cos \frac{a+l+p}{2}}{\text{rad. } 2}, \text{ or sin.}$$

$$\frac{A Z C'}{2} = \sqrt{\frac{\cos \frac{a+l+p}{2} \cos \frac{a+l+p}{2} - p \cdot \text{sect. } l \cdot \text{sect. } a}{\text{rad. } 2}}$$

Example. On Feb. 16th, 1828, in lat. $30^{\circ} 14' N.$, long. by account $31^{\circ} W.$ at 4h. 30m. P. M. the alt. of ☉ was $12^{\circ} 36'$ —, bearing S. W. $\frac{1}{2}$ W. per compass, height of the eye fifteen feet, required the variation?

Ship time h. m.
 Long 2 4 W.

☉ declin. 12° 28' S., polar direct. 102° 28'

Greenw. time 6 34

Alt. 12° 44' sect. '010814
 Lat. 30 14 sect. '063495
 Polar dist. 102 28

Obser. alt. ☉. 12° 36'
 Dip 3 56

2)145 26

Correction 12 32 4
 4 4

72 43 cos. 9·472898
 29 45 cos. 9·938619

Semidiameter 12 28 0
 16 13

2)19·485826

True altitude 12 44 13

33° 35' sin. 9·742913
 2

True ang S. 67 10 W.
 Obs. do. S. W. ½ W. = S. 50 37 W.

Variation 16 33 W. or nearly 1 ½ W.

From the observed altitudes and the distance of the sun and moon, and the compass bearing of either object, to find the latitude, longitude, and variation of the compass.

With the observed distance enter the Nautical Almanac for the time of the month in which the observation is made, and take by inspection the day and hour of Greenwich time, corresponding most nearly with that distance. To that time take the moon's semi-diameter and horizontal parallax, and, clearing the distance, find the Greenwich time from it. If this time differ much from that before taken out by inspection, take out the moon's semi-diameter and parallax again, and, again clearing the distance, find from it the true Greenwich time. For this time take the polar distance of both objects, and proceed with the computation thus:—

Let M (fig. 17, plate II) be the true place of the moon; S that of the sun; M P, S P, their polar distances; and M Z, S Z, their true zenith distances; and M S their true distance. Then in the triangles P M S, Z M S, all the sides in each

are given to find the angles P M S, Z M S, and the difference of those angles is the angle Z M P; and in the triangle Z M P are given Z M, M P, and the included angle Z M P, to find Z P, the co-latitude. Hence the time at the place of observation, and the true azimuth of either object, may be found; and the time compared with the Greenwich time, previously found from the distance, will give the longitude; and the true azimuth compared with the observed one will give the variation of the compass.

Example.—On September 2d, in the morning, the altitude of ☉ was 15° 45' + of ☽ 58° 40' —, distance of their nearest limbs 77° 0' 40", lat. by account 48° N., height of the eye twelve feet, bearing of the sun S. E. ¾ E., required the latitude, longitude, and variation of the compass?

By inspection in the Nautical Almanac it is readily seen that the Greenwich time of this observation must have been about 19h. of September 1st. To this time the moon's semidiameter is 15' 0", and hor. par. 55' 2"

Obs. alt. ☽	h. m. s.	☽	h. m. s.	☽ app. alt. sect.	'2865
Aug. semid.	58 40 0	Semid.	15 45 0	Hor. par. prop. log.	'5146
	15 12		15 53		
Dip	58 55 12	Dip	16 0 53	Prop. log.	'8011
	3 25		3 25	28' 27"	
☽'s app. alt.	58 51 47	☉ app. alt.	15 57 28	34 refr.	
	27 53		3 10	27 53 corr.	
☽'s true alt.	59 19 40	☉ true alt.	15 54 18		
Zenith dist. M Z	30 40 20	Zenith dist. S Z	74 5 42	Obs. dist. n. ls.	77 0 40
				Semidiameters	15 12
					15 53

App. centl. dist. 77 31 45

☾'s app. alt. 58° 51' 47" sect. .286438
 ☉'s ditto 15 57 28 sect. .017067
 App. dist. 77 31 45

2) 152 21 0
 Half sum 76 10 30 cos. 9:378320
 Half sum ∞ app. dist. 1 21 15 cos. 9:999878
 ☾'s true alt. 59 19 40 cos. 9:707677
 ☉'s ditto 15 54 18 cos. 9:983047

2) 75 13 58 39:372427

37 36 59,2 cos. 19:797578 cos. 9:898789

2) 19:574849

37 48 11 sin. 9:787424 cos. 9:897964

38° 44' 45½" sin. 9:796483
 2

True dist. 77 30 31

True dist. 77° 30' 31"
 Per Naut. Alm. dist. at XVIII. 78 1 10 diff. 0° 30' 39" prop. log. .7688
 XXI. . 76 37 18 1 23 52 3317
 h. m. s.
 1 5 48 prop. log. .4371
 18 0 0

App. time at Greenwich 19 5 48

For this Greenwich time the moon's polar distance PM is 71° 28' 31", and the sun's S P = 82° 4' 18". Then to find the angle PMS.

PM 71° 28' 31" cosect .023106
 MS 77 30 31 cosect 010404
 PS 82 4 18

2) 231 3 20
 115 31 40 sin. 9:955388
 33 27 22 sin. 9:741386

2) 19:730284

42 51 22 cos. 9:865142
 2

PMS 85 42 44

To find the angle ZMS.

ZM 30° 40' 20" cosect .292323
 MS 77 30 31 cosect .010404
 ZS 74 5 42

2) 182 16 33
 91 8 16 sin. 9:999915
 17 2 34 sin. 9:466996

2) 19:769636

39 54 40 cos. 9:884818
 2

ZMS 79 43 20
 PMS 85 42 44

ZMP 5 53 24

Then in the triangle ZMP we have ZM = 30° 40' 20", MP 71° 28' 31", and angle ZMP 5° 53' 24", to find ZP. From Z on MP let PX be a perpendicular

Rad. 10:000000 cos. MX 30° 32' 21" 9:935145
 : tan. MZ 30° 40' 20" 9:773127 : cos. PX 40 56 10 9:878201
 : cos. ZMP 5 53 24 9:997701 : : cos. MZ 30 40 20 9:934549

: MX . . . 30 32 21 tan. 9:770828 19:812750

MP . . . 71 28 31

PX . . . 40 56 10

PM 41 1 35 cos. 9:877605
 90

Lat. 48 58 25

To find the time at the place of observation.

☉'s altitude	. 15° 54' 18		
Lat.	. 48 58 25	sect.	.182827
☉'s polar dist.	. 82 4 18	cosect	.004172

2) 146 57 1			
73 28 30	cos.	9.453982	
57 34 12	sin.	9.926367	

2) 19.567348

37 25 18	sin.	9.783674
8		

☉ mer. dist. . 4h. 59m. 22s.
24

App. time at place 19 0 38
Do. at Greenwich 19 5 48

Long. in time, W. 5 10 = 1° 17½' W.

To find the sun's true azimuth.

☉'s alt.	. 15° 54' 18"	sect.	.016953
Lat.	. 48 58 25	sect.	.182827
☉ polar dist.	82 4 18		

2) 146 57 1			
73 28 30	cos.	9.453981	
8 35 48	cos.	9.995093	

2) 19.648854

41 52 17	sin.	9.824427
2		

☉'s true azimuth . S. 83 44 34 E.
Obsd. az. S. E. ¼ E., or S. 53 26 15 E

Variation 30 18 19 W., or nearly 2¼ points W.

ON NAUTICAL INSTRUMENTS FOR CELESTIAL OBSERVATIONS.

The instruments used by seamen for celestial observations are, the quadrant, the sextant, and the reflecting circle, which are all essentially the same instrument, and depend on the following general principles, viz. if an object be seen by reflection from two mirrors, the angular distance of the object from its reflected image is double the inclination of the mirrors.

For let AB, CD (fig. 18, plate II.), be two mirrors, whose planes produced meet in I. Let SF be a ray of light from an object S, reflected from the mirror AB, in FG, to the mirror CD, and again from CD, in DE, meeting SF produced in E. Then to an eye at E the angle SEG, or SES', would be the angular distance of S from its image S', as seen in the direction EGS', after reflection from the two mirrors. Now from the principles of optics, the angles SFA and GFB are equal; and by geometry SFA and BFE are equal; hence FI bisects the angle GFE. Again FG being produced to H, by the principles of optics, the angles FGC and FGI are equal, and by geometry FGC and HGI are equal; hence HGE, the outward angle of the triangle GFE, is bisected by G I,

and consequently by geometry the angle I is half the angle E.

It evidently follows, from what has just been demonstrated, that the plane of a distant object, as seen by reflection from two parallel mirrors, will be the same as that of the object itself; and consequently, if the image of a distant object as seen by reflection from two mirrors coincide with the object, we are certain that the mirrors are parallel to each other.

If CD' be a mirror perpendicular to CD, then an eye at S' would see the image of S in the direction of S'GE, in which case the supplement of the distance of the object from its image would be double the inclination of the mirrors; and consequently a distant object and its image as seen by reflection from two mirrors perpendicular to each other would appear 180° apart, or diametrically opposite to each other.

Fig. 1, plate III., is a representation of the quadrant as it is commonly fitted up. PO is the graduated arc or limb of the instrument, AB a mirror perpendicular to the plane of the instrument, attached to the flat bar K, which revolves with it round the centre, and carries at its extremity a vernier scale for subdividing the divisions on the limb. E is a mirror also perpen-

dicular to the plane of the instrument, and having its lower part silvered, but its upper part transparent; and it is parallel to AB when the zeros of the vernier and limb coincide. G is another mirror which is perpendicular to AB , when the zeros of the vernier and limb coincide; it has a narrow transparent slit in the middle being silvered both above and below the slit. H and I are two sight vanes, which are sometimes furnished with a moveable dark glass to admit of the instrument being used in taking the sun's altitude by an artificial horizon. AB is called the index glass, E the fore horizon glass, and G the back horizon glass. I and I' are radii of the instrument, and M, N , braces or frames. R is a small pencil to write down the observations when taken. D is a series of dark glasses or screens which can be used singly or combined; they are interposed between AB and E ; and when the mirror G is used the screens are inserted in a hole made to receive them at x .

To make AB perpendicular to the plane of the instrument, set the index forward towards the middle of the limb as at Q ; then, looking obliquely into AB , observe whether the image of PQ , as seen by reflection in the mirror, is in the same plane with PQ itself, as seen directly by the eye. For example, in fig. 19, plate II., AB represents the mirror, E the eye, and $P'D$ seen in the mirror the reflected image of PD seen by the eye; then, if $P'D$ and PD appear one continued plane, the mirror is perpendicular to the plane of the instrument, otherwise it is not; if the reflected image appears the lower, the mirror is inclined backward; if the higher it inclines forward. If it inclines backward, tighten the adjusting screw in the plane C by which the mirror is fastened to the index; but, if it inclines forward, slacken that screw till the image of the limb appears accurately in the same plane with the limb itself.

Next make the zero of the index accurately coincide with the zero of the limb, and the object then is to make the horizon glass E perpendicular to the plane of the instrument and parallel to the index glass AB . The horizon glass E can be moved round by a lever attached to an axis fastened to the frame in which E is set. The axis passes through the frame of the instrument, and the lever is attached to it on the other side. Unscrew the fastening screw of the lever, and looking through the sight vane H , and the horizon glass E , at the horizon of the sea or any other distant object, see if its image as seen by the double reflection in the silvered part of the horizon glass is in the same line with the object as seen directly through the unsilvered part. Let QO , fig. 4, plate III., represent the silvered part of the horizon glass, QP its unsilvered part, and BA the horizon seen through the unsilvered part, and AC its image as seen by reflection in the silvered part; then, if BA and AC are in a straight line, the horizon and index glasses are parallel. But if the image of the object in the silvered part of the glass appear above or below BA , as $a'c'$, or ac , the index glass must be moved round by means of the lever at the back of the instrument till $a'c'$ or ac correspond in direction with AC or BA produced, when the

mirrors will be parallel to each other. Incline the instrument to the horizon with the graduated side of the limb upwards; and, looking as before through the right vane and horizon glass, observe whether the object and its image continue still in the same straight line: if they do, the horizon glass is perpendicular to the plane of the instrument. If the reflected image appears as in $A'c'$, fig. 5 plate III., the horizon glass inclines forwards; if as in Ac it inclines backwards. When it inclines forward slacken the screw n , fig. 1 plate III., before the horizon glass, and tighten m behind it correspondently till $A'c'$ corresponds with AC or BA produced. If the mirror inclines backwards slacken m and tighten n till the object and its image appear in a straight line, in whatever way the instrument may be inclined. Sometimes, instead of making the parallel adjustment of the horizon glass, the index is moved forward or backward till the object and its image appear to coincide, when, the perpendicular adjustment of the horizon glass being made, the distance of the zero of the index from the zero of the limb is called the index error of the instrument, to be added to all angles measured by and read from the instrument when the index stands to the right, and subtracted when it stands to the left of the zero of the limb.

The quadrant is commonly graduated to $20'$. and subdivided by means of the vernier to single minutes. The graduations are generally continued a few degrees to the right of zero, and the prolongation of the arc is called the arc of excess.

To adjust the back horizon glass G , or to make it perpendicular to AB , when the zeros of the index and limb coincide, and also perpendicular to the plane of the instrument.

Place the zero of the index as much to the right of zero on the limb as double the dip; then, with an open horizon on both sides, look through the back sight vane I , through the slit in the middle of G , turn the glass by means of the lever belonging to it at the limb of the instrument till the horizon seen directly appears to coincide with the opposite horizon as seen by reflection, and, inclining the instrument, adjust the glass in the same manner as the fore horizon glass is adjusted till the horizon seen directly, and the reflected image of the opposite horizon, appear to coincide, when the glass will be adjusted.

In some instruments the adjusting levers are moved by means of a screw, and in the better constructed instruments the small movements of the index are also effected by a screw, called a tangent screw attached at Q ; but, before this screw will act, the index must be clamped to the limb, see fig. 2, plate III. when Q is the head of the tangent screw, and P that of the screw which clamps the index to the limb.

Fig. 2, plate III., is a representation of the sextant, in which the graduations are carried to 120° . The essential parts of this instrument are the same as those of the quadrant, and the methods of adjusting its index and horizon glasses are effected in the same manner, though sometimes by different and more delicate mechanical processes. See *Longitude*. F is a set of dark glasses to be occasionally used before the hori-

zon glass, in taking the index error of the instrument by observations on the sun, and in taking the sun's altitude from an artificial horizon. *HI* is a telescope screwed into a collar at *G*, and this collar is attached to a stem *x*, which, by means of a screw going perpendicularly through the plane of the instrument, can elevate or depress the telescope, and point it more or less towards the silvered or unsilvered part of the horizon glass, according as the object seen directly, or that by reflection, may be required to be more or less bright: *k* is the eye-piece of the telescope which is to be drawn out till distinct vision is obtained. *N* is a microscope revolving on a pin at *M* on the index, for more accurately reading the graduations on the limb, and *T* is the handle by which the instrument is held.

The telescope must be parallel to the plane of the instrument, and it is so placed by the following process. In the focus of the eye-piece there are four cross wires, so placed as to form a square on the centre of the field of view. Let *D E*, fig. 20, plate II., be the plane of the instrument, *B B* the telescope screwed into the collar *A A*, *x* the stem of the collar passing by means of a screw by which it can be raised or depressed through the plane of the instrument. Turn the eye-piece of the telescope till two of the wires in its focus, as *a b*, *c d*, appear parallel to *D E*, when the other two *e f*, *g h*, will of course be perpendicular to it. When the sun and moon are at a considerable distance from each other, bring the moon and the sun's image exactly in contact on *a b*, and immediately bringing them to *c d*, if they still appear in contact, the telescope is adjusted; if they appear to separate at *c d*, tighten the screw *n*, and slacken *m*; if they overlap at *e d*, slacken *n* and tighten *m*, till the contact appears perfect at both wires, when the telescope will be parallel to the plane of the instrument. Fig. 3, plate III., is a representation of Troughton's reflecting circle: *C*, *C'*, *C''* are three indexes attached to each other, and placed as nearly as they conveniently can be placed, at equal distances on the arc *C*, carrying the tangent screws *Q*, *Q'*, and the clamp *P* is used for reading the degrees, minutes, and seconds, by the others *C'* and *C''*, only the minutes and seconds are read; *C'* is called the leading index, *A B* is the index reflector, *T* the horizon glass, *R* and *S* the screens as in the sextant. *H* is the handle by which the instrument is held when the instrument is in the position represented in the figure, *H'* that by which it is held when in observing the face is reversed, *H''* is the handle by which it is held when the places of the indexes on the limb are read, the graduations being on the opposite face of the limb. *M'*, *M''*, &c., are the microscopes for more accurately reading the subdivisions on the vernier. *H* is the head of a screw attached to the collar into which the telescope is screwed, and it is used for raising or depressing the telescope to place it opposite that part of the horizon glass that may best suit for observing; *I' I'' I'''* is a bent handle terminating in *H*, having the bend sufficiently open to admit the apparatus *Q P Q'* passing between *I'* and *I'''*.

To take the altitude of the sun by the quadrant.—Hold the instrument vertically, and turning

down one or more of the dark glasses before the index mirror, the zeros of the index and limb being brought together, look through the right vane and horizon glass towards the sun, and a colored image of it will be seen in the silvered part of the reflector. Move the index forward till the colored image of the sun appears nearly in contact with the horizon. Then vibrate the instrument a little on each side of the vertical in a direction perpendicular to its own plane, and the image of the sun will appear to describe a circular arch as *A' A'' A'''* fig. 6, plate III.; move the index till the lower edge just touches the horizon, when at the lowest part of the arc, as at *C*; and the place of the index on the limb will show the altitude of the lower limb of the sun.

If the altitude of the upper limb is required, it may be taken in the same way, making the image of the upper limb to coincide with the horizon, when at the lowest point of the arc which it appears to describe, as the instrument is vibrated from right to left. The sight vane generally has two holes, one at the same distance from the plane of the instrument as the upper edge of the silvered part of the horizon glass, the other opposite the middle of the unsilvered part; and, as the eye and the image of the object observed was presumed in the use of the instrument to be at the same distance from its plane, if the observer look through the lower hole, the image ought to be kept on *Q R*, fig. 3, plate III. if through the upper, midway between *M P* and *Q R*, through the whole arc of apparent vibration *A' A'' A'''*, fig. 6.

In taking the meridian altitude, the image of the sun is brought, as above, in accurate contact with the horizon, a little before the object attains its greatest altitude, and kept by successively and slowly advancing the index in contact as long as the altitude increases; after which, or as soon as the image appears to dip within the horizon, the instrument is read for the meridian altitude.

The sextant is used in the same manner, either when a plain open tube, or a direct telescope, is applied in place of the astronomical or inverting telescope, which is generally used with that instrument in observing.

In taking the distance of any two celestial objects, by means of the sextant, look through the telescope towards the dimmer object, and, holding the plane of the instrument in the plane passing through the two objects and the eye of the observer, move forward the index till the image of the other object appears nearly in contact with the object seen directly by the telescope through the transparent part of the horizon glass. Then tighten the clamp screw of the index, *P*, fig. 2 plate III., move the index slowly by means of the screw *Q*, till the objects are in accurate contact. The object seen directly ought to be kept steadily in the centre of the field of view, and, by a slight motion of the wrist of that hand by which the instrument is held, the image of the object seen by reflection may be made to pass and repass the other object, till in passing they are in exact contact, when the place of the index on the limb will show the distance of the object.

Fig. 2.

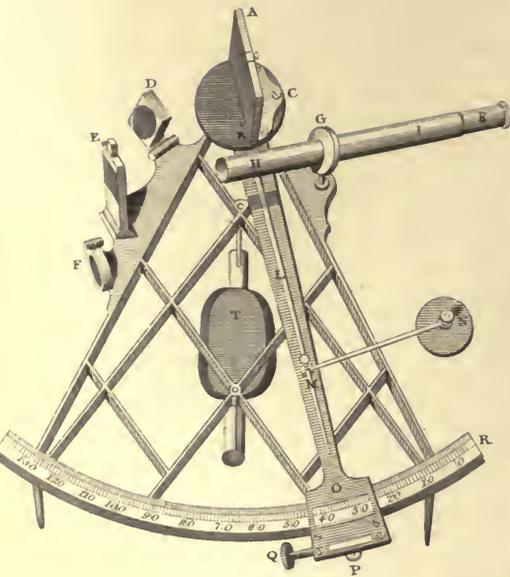


Fig. 1.

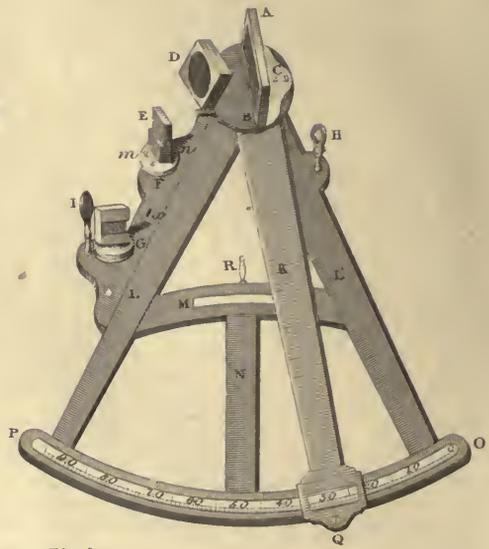


Fig. 4.

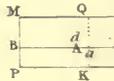


Fig. 5.

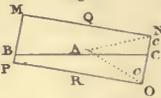


Fig. 6.

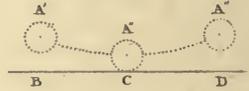


Fig. 8.



Fig. 3.

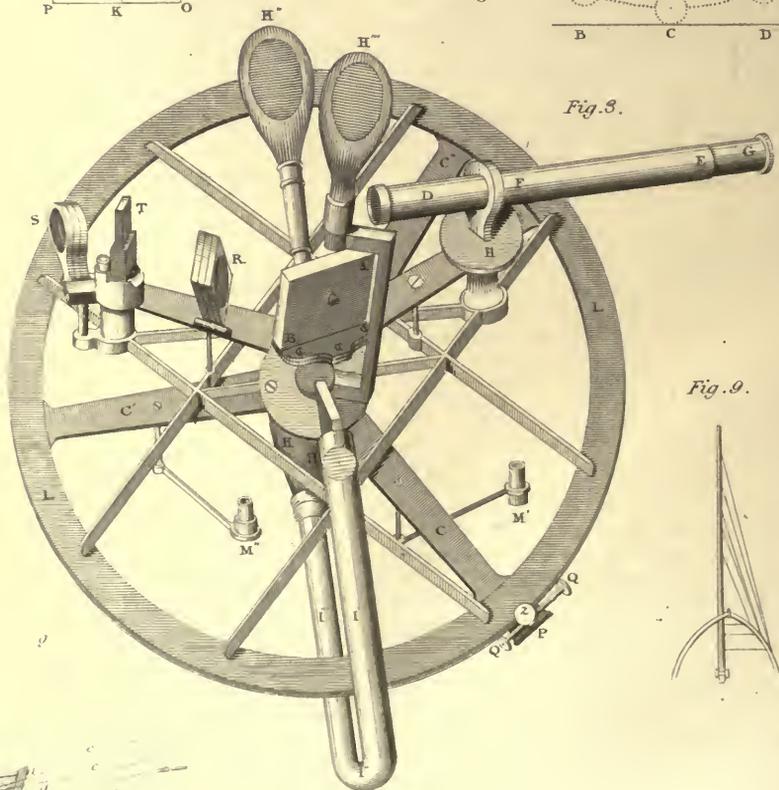


Fig. 9.



Fig. 7.



If one of the objects is the sun, and the other the moon, it will generally be necessary to put down one of the dark glasses, D. And, with the moon and a star, it will often be necessary to put down one of the lighter of the screens D, to reduce the glare of the moon's light, that the star may be distinctly enough seen when in contact with the moon's image.

The nearest limbs of the sun and moon are always brought in contact, and the enlightened or round limb of the moon is always brought in contact with a star, and, by applying the known semi-diameters, the central distance of the object is obtained.

It is much more easy to observe with the face of the instrument upwards than downwards, though this latter position, in the method of observing detailed above (that which is almost universally practised), must necessarily be assumed when the dimmer object is to the right. But the writer of this article in such circumstances frequently puts one or more of the dark glasses, F, before the horizon glass, and, removing those at D from before the index glass, looks directly at the brighter object, and takes the dimmer one by reflection. In this case, however, it is necessary to bring the telescope near the plane of the instrument by means of the screw attached to X, the stem of the collar G, that a considerable portion of the object glass of the telescope may be opposite the silvered part of the horizon glass.

In taking distances with the reflecting circle, hold the instrument by the handle H, fig. 3, plate III; and looking through the telescope and the horizon glass T at the dimmer object, move forward the index Q P Q' till the image of the brighter one, as seen by reflection from A B, the index glass, appear in contact with the dimmer one seen directly, and, clamping the screw Z, make the contact perfect by means of either of the screws Q, Q'. Then, taking the instrument by the handle H'', turn the graduated side of the instrument upwards, and read the degrees, minutes, &c., at the vernier attached to the index Q P Q', but the minutes, &c., only at the vernier's attached to C', C''. Next take the instrument by the handle H', and, reversing it, point the telescope again towards the dimmer object, and moving forward the leading index Q P Q', make the contact perfect, and read the verniers as before. Then the sixth part of the sum of the readings will be the distance independent of index error, which, when the instrument is used in this manner, has no existence, as each of the indexes passes over twice the arch to be measured, the leading one to the right and left of zero, and the others in equal quantity on different parts of the arch.

The microscopes M', M'', &c., are brought in reading round to the verniers of the indexes to which they are attached.

In taking altitudes with a sextant or circle, by an artificial horizon, the telescope is pointed to the image of the object as reflected from the surface of a fluid, or a polished plane set horizontally by means of levels; and the image of the object as reflected from the index glass to the horizon glass, and hence to the eye through the telescope, is brought in apparent contact with the image of the object as seen by reflection from the horizontal plane; and the distance of these two images is double the altitude of the object.

In all cases it is recommended to use the inverting or astronomical telescope. The direct telescope is in general simply an opera glass, without means of ascertaining the position of its line of collimation; and its field of view is necessarily small, as that of all telescopes constructed on such principles must be. A very little practice will render the use of the inverting telescope easy.

We have now only to describe the method of adjusting the back horizon glass of the quadrant G, fig. 1, plate III. To do this, place the zero of the index to the right of zero, on the limb, a quantity equal to twice the dip; then looking through the sight vane I, and the slit in the middle of G at the horizon, move the glass G by means of the lever at the back of the instrument till the opposite horizon, or that behind the observer, appear in a line with that seen directly through the transparent slit. Incline the instrument to the horizon, and, if the horizon seen directly and by reflection do not then coincide, adjust by the screws before and behind the glass, as in adjusting E, till they appear to coincide in all positions of the instrument; then the back-horizon glass G will be perpendicular to A B when the index is at zero, and also perpendicular to the plane of the instrument.

To take an altitude by a back observation, look through the right vane F, fig. 1 plate III., and the transparent slit in the middle of the back horizon glass G, at that part of the horizon opposite to the sun; and, moving the index K Q, the image of the sun will appear to ascend; make the contact perfect in the same way as in the fore observation. The apparent upper limb of the object is its real lower limb.

The distance of any two celestial objects may be measured with a quadrant, though not with the same nicety as it may be done with a sextant; if, however, the distance is more than 90°, it must with the quadrant be measured by a back observation, which is done by looking at the dimmer object, and moving the index till the reflected image of the other appears to coincide with it: when the supplement of the angle shown by the index on the limb of the instrument will be the required distance of the objects.

NAVIGATION, INLAND. See INLAND NAVIGATION.

NAVIGATION LAW. See MARITIME LAW.

NAVIGATOR'S ISLANDS, a cluster of ten lofty islands in the South Pacific Ocean; some of which are well-peopled and remarkable for their extent and fertility. They are situated between 169° and 172° 30' W. long., and from 13° 25' to

an uncertain lat. southward. The easternmost of the cluster seem to have been discovered by Roggewein and Bauman in 1722; another of magnitude was added by Bougainville in 1768, and the two westernmost, which are the most consi-

siderable, were first seen by Perouse in 1787. Each of the last is more than forty miles in length. They all were visited by Edwards in 1791. Perouse mentions three more of which he heard to the southward, named Sheka, Ossamo, and Ooera. He speaks of the inhabitants of these islands as stout and well-made men, their ordinary height being five feet nine, ten, or eleven inches. Their bodies are painted or tattooed: round their loins they wear a girdle of sea-weed, which reaches to their knees. Their hair is very long, and frequently turned up all round the head, so as to heighten, say the simple navigators, the ferocity, or, as we might say, the dandyism, i. e. (so do extremes meet) the Bond Street refinement of their countenances; 'which always express astonishment,' we are told, 'or cholera!' The least dispute between them is followed by violence: and often costs the combatants their lives; they are most universally, therefore, covered with scars, the consequences of these quarrels. The manners of both male and female are disgustingly profligate. They disdained the iron tools which were offered them in exchange for produce, and use hatchets shaped like adzes, made of a very fine basalt. The chief food is roots, hogs, and poultry: and they manufacture a good sail-cloth for their canoes; which are also well-built and ornamented.

NAVY is used for the fleet or shipping of a prince or state. See MARINE. The management of the British royal navy, under the lord high admiral of Great Britain, is often entrusted to principal officers and commissioners, who hold their places by patent. The royal navy of Great Britain is now in a very flourishing state, having been diligently kept up in late reigns, as the natural strength of the kingdom. When it is complete, it is divided into three squadrons, distinguished by the colors of the flags carried by the respective admirals belonging to the same, viz. red, white, and blue; the principal commander of which bears the title of admiral: and each has under him a vice-admiral and a rear-admiral, who are likewise flag-officers.

NAVY. In our statistics of GREAT BRITAIN we have given an account of the rise and progress of this important source of our national strength and greatness. Our article SHIP-BUILDING will enter fully into what the French call the *matériel* of this part of the service. We may here notice

1. *The present rating of the navy.*—To remedy the inconveniences resulting from the different scales formerly adopted in the measurement of ships, the lords of the admiralty suggested, by their memorial to the prince regent, the present rating, which, by his order in council, of the 25th November 1816, was ordered to be carried into effect, i. e. that the ships of the navy should for the future be rated as under:—The first rate to include all three-deckers, inasmuch as all sea going ships of that description carry 100 guns and upwards; the second rate to include all ships of eighty guns and upwards, on two decks; the third rate to include all ships of seventy guns and upwards, and less than eighty guns: the fourth rate to include all ships of fifty guns and upwards, but less than seventy guns: the fifth rate to include all ships from thirty-six

to fifty guns: the sixth rate to include all ships from twenty-four to thirty-six guns: and that the complements of men be established as under:

1st Rate,	900 — 850 or 800 men
2nd do.	700 or 650
3d do.	650 or 600
4th do.	450 or 350
5th do.	300 or 280
6th do.	175 — 145 or 125.

Of sloops the complements established according to their size, to consist of 135, 125, 95, or 75 men. Brigs (not sloops), cutters, schooners, and bombs, with 60 or 50 men. Thus stands the rating and manning of the navy at present; but another war, or a new administration of the affairs of the navy, will, in all human probability, make new regulations.

2. *The personnel of the navy, properly so called.*—This consists of the commissioned officers; i. e. the flag-officers, post-captains, commanders, and lieutenants; the warrant-officers, petty officers, and seamen.

Flag-officers are divided into those of the three squadrons, red, white, and blue, each of which has three ranks of flag-officers; as admiral of the red, white, or blue; vice-admiral of the red, white, or blue; rear-admiral of the red, white, or blue; the admiral wearing his color at the main, the vice-admiral at the fore, and the rear-admiral at the mizen-mast-head. There is also an admiral of the fleet, who, if in command, would carry the union flag at the main. There are besides superannuated rear-admirals, enjoying the rank and pay of a rear-admiral, but incapable of rising to a higher rank. There is also in the navy the temporary rank of commodore, generally an old post-captain, and distinguished by wearing a broad pendant. He ranks next to the junior rear-admiral, and above all post-captains, except where the captain of the fleet shall be a post-captain, who, in that situation, takes rank next to the junior rear-admiral.

The *warrant officers* are the master, second master, gunner, boatswain, carpenter. There are other warrant officers, who, though non-combatants, constitute a part of the establishment of the larger classes of ships of war. These are, the chaplain, surgeon, surgeon's assistant, purser. To which may be added, as part of the staff of a fleet or squadron, secretary to the admiral or commander-in-chief, and physician of the fleet. The *petty officers* are very numerous, the principal of whom are master's mates and midshipmen. Their names or ratings will be seen in the following table of the establishment of the ratings and pay in the different classes of ships of war.

The officers of the navy thus rank with those of the army:—

Navy.	Army.
Admiral of the fleet,	Field-marshal.
Admiral,	General.
Vice-admiral,	Lieutenant-general.
Rear-admiral,	Major-general.
Commodore,	Brigadier-general.
Post-captain of 3 years,	Colonel.
Post-captain under do.,	Lieutenant-colonel.
Commander,	Major.
Lieutenant,	Captain.

Officers of the same rank command according to the priority of their commissions, or, having commissions of the same date, according to the order in which they stand on the list of the officers of the navy, except in the case of lieutenants of flag-ships, who take precedence according as the flag-officer shall think fit to appoint them.

Midshipmen are required to serve six years on board some of his majesty's ships, two of which years they must have been rated as midshipmen, to render them eligible to the rank and situation of lieutenant; or, if educated at the Royal Naval College, four years' service at sea qualify for a commission as lieutenant. No lieutenant can be promoted to the rank of commander, until he has been on the list of lieutenants for two years; and no commander to the rank of post-captain until he has been on the list for one year. Post-captains become admirals in succession, according to their seniority on the list; but, if a post-captain should not have served in the course of the preceding war, when his turn arrives he is passed over, and placed on the list of superannuated and retired captains; as are those captains likewise who have accepted of commissionships or other civil employments, provided they retain those employments when they come within the limits of a promotion to the rank of rear-admiral.

No person can be appointed to serve as master of one of his majesty's ships who shall not have served as second master; and no person can be appointed as second master, until he has passed such examination as may from time to time be directed. No person can be appointed gunner or boatswain, unless he shall have served one year as a petty officer on board one or more of his majesty's ships, and produce certificates of his good conduct, and undergo the necessary examination. No person can be appointed carpenter, unless he shall have served an apprenticeship to a shipwright, and been six months a carpenter's mate on board one or more of his majesty's ships. No person can be appointed purser, unless he shall have been rated and discharged the duties of a captain's clerk for two complete years, one year as captain's clerk, and been employed in the office of the secretary to a flag-officer for one other year, produce good certificates, and find such security for the honest and faithful discharge of his duty as shall be required. No person can be appointed chaplain to one of his majesty's ships, until he has received priest's orders; but may be appointed to act while in deacon's orders. No person can be appointed surgeon to one of his majesty's ships, until, by long and meritorious services, he has discharged the duties of assistant surgeon; and all persons applying for the situation of assistant surgeon must undergo an examination touching their qualifications before the medical members of the victualling board.

All flag-officers, *commanders-in-chief*, are considered as responsible for the conduct of the fleet or squadron under their command; to keep them in perfect condition for service; to exercise them frequently in forming orders of sailing and lines of battle, and in performing all such evolutions as may occur in the presence of an enemy; to di-

rect the commanders of squadrons and divisions; to inspect into the state of each ship under their command; to see that the established rules for good order, discipline, and cleanliness, be observed; and occasionally to enquire into these and other matters themselves. They are to correspond with the secretary of the admiralty, and report to him all their proceedings for the information of the board. If a commander-in-chief should be killed in battle, his flag is to be continued flying; intelligence to be conveyed by signal, or otherwise, to the next in command, who is immediately to repair on board, leaving his own flag (if a flag-officer) flying, and direct the operations of the fleet until the battle be ended, or the enemy out of sight.

Every flag-officer serving in a fleet, but not commanding it, is to superintend all the ships of the squadron or division placed under his orders; to see that their crews are properly disciplined; that all orders are punctually attended to; that the stores, provisions, and water, are kept as complete as circumstances will admit; that the seamen and marines are frequently exercised; and that every precaution is taken for preserving the health of their crews; for all which he is responsible to the commander-in-chief. When at sea, he is to take care that every ship in his division preserve her station, in whatever line or order of sailing the fleet may be formed; and in battle he is to observe attentively the conduct of every ship near him, whether of the squadron or division under his immediate command or not; and at the end of the battle he is to report it to the commander-in-chief, in order that commendation or censure may be passed as the case may appear to merit; and he is empowered to send an officer to supersede any captain who may misbehave in battle, or whose ship is evidently avoiding the engagement. If any flag-officer be killed in battle, his flag is to be kept flying, and signals to be repeated, in the same manner as if he were still alive, until the battle shall be ended; but the death of a flag-officer, or his being rendered incapable of attending to his duty, is to be conveyed as expeditiously as possible to the commander-in-chief.

When a *captain* is appointed to command a ship of war, he commissions the ship by hoisting his pendant; and if fresh out of the dock, and from the hands of the dock-yard officers, he proceeds immediately to prepare her for sea, by demanding her stores, provisions, guns, and ammunition, from the respective departments, according to her establishment. He enters such men as may volunteer, and be fit for the service (in time of peace), or which may be sent to him from some rendezvous for raising men, in time of war; and he gives them the several ratings of petty officers, able-seamen, ordinary, or landsmen, as their apparent qualifications may entitle them to. If he should be appointed to succeed the captain of a ship already in commission, he passes a receipt to the said captain for the ship's books, papers, and stores, and becomes responsible and accountable for the whole of the remaining stores and provisions; and, to enable him to keep the ship's accounts, he is allowed a clerk of his own appointing. The duty of the

captain, with regard to the several ship's books and accounts, pay-books, entry, musters, discharges, &c., is regulated by various acts of parliament; but the state of the internal discipline, the order, regularity, cleanliness, and the health of the crews, will depend mainly on himself and his officers. In all these respects, the general printed instructions for his guidance are particularly precise and minute. And, for the information of the ship's company, he is directed to cause the articles of war, and abstracts of all acts of parliament for the encouragement of seamen, and all such orders and regulations for discipline as may be established, to be hung up in some public part of the ship, to which the men may at all times have access; he is also to direct that they be read to the ship's company, all the officers being present, once at least in every month. He is not authorised to inflict any corporal punishment on any commissioned or warrant officer, but he may place them under arrest, and suspend any officer who shall misbehave, until an opportunity shall offer of trying such officer by a court-martial. He is enjoined to be very careful not to suffer the inferior officers, or men, to be treated with cruelty or oppression by their superiors. He alone is to order punishment to be inflicted, which he is never to do without sufficient cause, nor ever with greater severity than the offence may really deserve; and all the officers and the whole ship's company are to be present at every punishment; which must be inserted in the log book, and an abstract at the end of every quarter made out and sent to the admiralty.

The *lieutenants* by turns take the watch, and are in the absence of the captain entrusted with the command of the ship; but this officer is to inform the captain of all occurrences that take place during his watch, as strange sails that may be in sight, signals from other ships in company, change of wind, &c. He is to see that the ship be properly steered, the log hove, and the course and distance entered on the log-board; and, in short, he is to see that the whole of the duties of the ship are carried on with the same punctuality as if the captain himself were present; in whose absence the senior lieutenant is responsible for every thing done on board.

The *master* receives orders from the captain, or lieutenants. His more immediate duties are those of stowing the ship's hold, and of attending to her sailing qualities; of receiving and placing the provisions in the ship, so as most conveniently to come at those which may be wanted. He is to take care that the cables are properly coiled in the tiers. The keys of the spirit-room are in his custody, and he is directed to entrust them only to the master's mates. He has the charge of the store-rooms of the warrant officers, which he is ordered frequently to visit; in short, the whole of the ship's provisions, water, fuel, and stores of every description, are under the superintendence of the master; and he is also entrusted, under the command of the captain, with the charge of navigating the ship, bringing her to anchor, ascertaining the latitude and longitude of her place at sea, surveying harbours, and making such nautical remarks and observa-

tions as may be useful and interesting to navigation in general.

The *warrant officers* are to receive on board from the dock-yards the various stores of their respective departments, and keep an account of the expenditure of each of them.

The *gunner* has in charge the ship's guns and the powder magazine: he is to see that the locks and carriages are preserved in good order, and that the powder is free from damp; he is to examine the musquetry and small arms, and to see that they are kept clean, and fit for service; and in preparing for, and during battle, it is his duty to take care that all the quarters are supplied with every thing necessary for the service of the guns. He is frequently to exercise the men at the guns and to see that they perform this part of their duty with correctness, explaining and enforcing the necessity of their pointing the guns before they fire them, of sponging them well, and of close-stopping the touch-hole immediately after firing. The armorer and his mates are under the immediate orders of the gunner, in every thing that relates to the great guns and small arms.

The *boatswain* receives and examines all ropes and other parts of the rigging, the latter of which he is ordered to inspect daily, in order that any part of it, chafed or likely to give way, may be repaired without loss of time. He is always required to be on deck at such times as all hands are employed; he is to see that the men, when called, move quickly upon deck, and when there that they perform their duty with alacrity, and without noise or confusion. The sail maker and the rope-maker are under his immediate orders.

The *carpenter* inspects the state of the masts and yards, and, whether in the dock-yard or on board the ship, sees that they are perfectly sound and in good order. He is to examine every part of the ship's hull, magazine, store-rooms, and cabins. Every day when at sea he is carefully to examine into the state of the masts and yards, and to report to the officer of the watch if any appear to be sprung, or in any way defective. He is to see that the ports are secure and properly lined, and that the pumps be kept in good order, as are also the boats, ladders, and gratings. The caulker is placed under his immediate orders.

The *purser* has charge of the ship's provisions and the serving them out. Accordingly he must not only produce good certificates of his conduct while serving in the capacity of clerk, but must also find two sureties for the due discharge of his trust, who are required to give bond in a penal sum, according to the rate or class of ship to which he may be appointed. The regulations and instructions for his guidance are minutely detailed in the general printed instructions, with all the various forms established for the keeping of his accounts with the Victualling Board, to which he is immediately responsible. To assist him in the performance of his duties, he is allowed to employ the clerk, who, though engaged by the captain, who is responsible for the strict performance of the duties of all the officers under his orders, is, as it were, a check on the purser in many parts of his duty, as regards the slop-

books, muster-books, &c. He has a steward also under his orders.

The *midshipmen* are principal petty officers, who have no specific duties assigned to them. In smaller vessels the senior ones are entrusted with the watch; they attend parties of men sent on shore; pass the word of command on board, and see that the orders of their superiors are carried into effect; and, in short, are exercised in all the duties of their profession, so as, after six years' service, to qualify them to become lieutenants.

The duties of the *clerical and medical officers* are too obvious to need explanation.

Every ship, according to her class, has a certain number of marines serving on board as part of her complement, which are commanded by a captain, or brevet-major, from first to fourth rates inclusive, with three or two subalterns under them, and an established number of non-commissioned officers; but the party on board fifth rates, and under, is commanded by a subaltern, and in small vessels by a serjeant or corporal.

The *crew* of a ship of war consists of able and ordinary seamen, landsmen, boys, and marines. The landsmen, boys, and marines, are entered voluntarily; the latter in the same manner as soldiers, by enlisting into the corps: the two former at some rendezvous, or on board particular ships. A supply of boys for the navy is also regularly sent from the asylum at Greenwich and the Marine Society. Able and ordinary seamen also very commonly volunteer to serve during the war, and always in time of peace; but the high wages given by the merchant ships in time of war hold out that encouragement which induces them to give the preference to that service.

3. The *discipline, or practical government*, of his majesty's navy is regulated by the act of 22 Geo. II., or what are called the Articles of War. By this act the lord high admiral or lords commissioners of the admiralty are empowered to order courts-martial for all offences mentioned therein, and committed by any person in and belonging to the fleet and in full pay; and also to delegate the same power to the admiral commanding in chief on foreign stations, which power also may devolve on his successor in case of death or recall, provided that no commander in chief of any fleet or squadron, or detachment thereof consisting of more than five ships, shall preside at any court-martial in foreign parts, the officer next in command being ordered to preside thereat. No court-martial can consist of more than thirteen or of fewer than five persons, to be composed of such flag-officers, captains, or commanders, then and there present, as are next in seniority to the officer who presides at the court-martial. And, when there are but three officers of the rank of post-captains, the president is to call in as many commanders under that rank as will make up five in the whole.

The code of laws consists of thirty-six articles, of which nine award the punishment of death, and eleven death or such other punishment as the court-martial shall deem the offence to deserve. Those which incur the former are, the holding illegal correspondence with an enemy—

cowardice or neglect of duty in time of action—not pursuing the enemy—desertion to the enemy—making mutinous assemblies—striking a superior officer—burning magazines, vessels, &c. not belonging to an enemy—murder—sodomy. The penalty of death for cowardice, or other neglect of duty in time of action (Art. 12), and of not pursuing the enemy (Art. 13), was by the 19 Geo. III. so far mitigated as to authorise the court-martial 'to pronounce sentence of death, or to inflict such other punishment as the nature and degree of the offence shall be found to deserve.' The other eleven articles, which leave the punishment to the discretion of the court, are, not preparing for fight, and encouraging the men in time of action—suppression of any letter or message sent from an enemy—spies delivering letters, &c., from an enemy—relieving an enemy—disobedience of orders in time of action—discouraging the men on various pretences—not taking care of and defending ships under convoy—quarrelling with and disobeying a superior officer in the execution of his office—wilfully neglecting the steering of ships—sleeping on watch, and forsaking his station—robbery. The remaining sixteen articles incur the penalty of dismissal from the service, or from the ship, degradation of rank, or such other punishment as the court may judge the nature and degree of the offence to deserve.

4. As to the mode of *supplying* the navy with men, the power of impressing seamen, though the most invidious, has hitherto been found the most certain means. It has been a matter of some dispute, and submitted to not without a national reluctance; it is now however established by the law of the land beyond question, and, from the spirit of the Constitution, the exercise of it resides in the crown. But besides this method of impressing, (which, after all, is only defensible from absolute public necessity, to which all private considerations must give way,) other ways have from time to time been adopted, and many of them still continue to be, that tend to the increase of seamen and manning the royal navy. Among these is the provision that every foreign seaman who during a war shall serve two years in any man-of-war, merchant-man, or privateer, is naturalised, ipso facto; stat. 12 Geo. II. c. 3; and, serving three years, may be employed as a British mariner, stat. 34 Geo. III. c. 68; and, by various statutes, seamen, having served the king for a limited time, are free to use any trade or profession in any town in the kingdom without exception.

For the furnishing of mariners for the fleet an act of parliament, stat. 7 and 8 W. III. c. 21, was passed, by which it was enacted that all seamen, watermen, &c., above the age of eighteen years, and under fifty, capable of sea-service, who should register themselves voluntarily for the king's service in the royal navy, to the number of 30,000, should have paid to them the yearly sum or bounty of forty shillings, besides their pay for actual service, and that whether they were in service or not: and none but such mariners, &c., as were registered, should be capable of preferment to any commission, or be warrant officers in the navy: and such registered

persons were exempted from serving on juries, parish offices, &c.; also from service abroad after the age of fifty-five years, unless they went voluntarily: and when by age, wounds, or other accidents, they were disabled for future service at sea, they were to be admitted into Greenwich Hospital, and there provided for during life: and the widows of such seamen as should be slain or drowned, not of ability to provide for themselves, should be likewise admitted into the hospital, and their children educated, &c. But if any registered seaman should withdraw himself from the king's service, in his ships or navy; or if any such mariner relinquished the service, without consent of the commissioners of the admiralty, he was for ever to lose the benefit of the act, and be compelled to serve in his majesty's fleet six months without pay. This registry, however, being by experience proved to be ineffectual, as well as oppressive, was abolished; and the above statute repealed, by stat. 9 Anne, c. 21, sect. 64. The 4 Anne, c. 19, sect. 18, provides that watermen plying on the Thames between Gravesend and Windsor, on notice given by the commissioners of the admiralty to the company of watermen, are to appear before the said company, to be sent to his majesty's fleet, or, on refusal, they shall suffer one month's imprisonment, and be disabled working on the Thames for two years. The stat. 2 and 3 Anne, c. 6, that poor boys, whose parents are chargeable to the parish, may, by churchwardens and overseers of the poor, with consent of two justices of peace, be placed out apprentices to the sea-service until the age of twenty-one years, they being thirteen years old at the time of their placing forth: these apprentices shall be protected from being impressed for the first three years (if they are not more than eighteen years old, 4 Anne, c. 19, sect. 17), and if they are impressed afterwards the master shall be allowed their wages. And all masters and owners of ships, from thirty to fifty tons burden, are required to take one such apprentice, one more for the next fifty tons, and one more for every 100 tons above the first 100, under the penalty of £10. Masters of apprentices placed out by the parish may, with the consent of two justices, turn over such apprentices to masters of ships.

Of the more modern statutes the following deserve notice:—By stats. 35 Geo. III. c. 5, c. 9, c. 19, and c. 20; and 36 Geo. III. c. 115; a number of men were raised for the navy according to a certain proportion imposed on every county and port in Great Britain. The execution of this act was entrusted to the justices of peace and magistrates of corporations, and the expense defrayed by rates made upon every parish, out of which bounties were paid to volunteers entering. To further the urgent demand for sailors the stat. 35 Geo. III. c. 34 was passed to enable magistrates to levy for his majesty's navy, in their several jurisdictions, 'all able-bodied, idle, and disorderly persons, who could not on examination prove themselves to exercise and industriously follow some lawful trade or employment, or to have some substance sufficient for their maintenance.' The execution of this act was, by a clause therein, allowed to be suspended and re-

vived according to necessity, by his majesty's proclamation or notice from the admiralty. It is to be feared, however, that it was never enforced to the extent it ought to have been. By various acts private militia-men, having served in the navy, were allowed to be discharged from the militia in order to re-enter into the navy, to a certain extent.

To encourage the seamen in the exercise of their duty, to ensure them their wages, to protect their persons, to provide for their families, and to secure them from impositions in relation to their prize-money and other advantages, several acts of parliament have from time to time been passed. By the first of these now in force, stat. 31 Geo. II. c. 10, encouragement is given to seamen to enter into his majesty's service voluntarily; volunteers entering their names with any commissioned officer of the fleet, and forthwith proceeding towards their ships, on certificate thereof shall be entitled to wages from the date of the certificate, and be allowed the usual conduct money, and also be paid an advance of two months' wages, &c. And, if any volunteer is turned over to another ship, he shall receive, over and above his wages due, the like advance of two months' pay, and not serve in a lower degree than he did before. Persons entered on board ships of war are not to be taken thereout by any process of law, unless it be for a criminal matter; or where the debt amounts to £20. When seamen die on board, the commander of the ship shall, as soon as may be, make out tickets for their pay, which shall be paid to their executors, &c., without tarrying for the ship's return: and seamen's pay shall not be bargained and sold; but tickets may. Governors and consuls in foreign parts are to provide for shipwrecked mariners at 6*d.* per diem each (increased by stat. 32 Geo. III. c. 33 to 9*d.*, and extended indefinitely, under direction of the admiralty, by 53 Geo. III. c. 85), and put them on board the first ships of war, &c., and, on sending bills and disbursements with vouchers to the commissioners of the navy, they shall be paid. And see also stat. 54 Geo. III. c. 126; 58 Geo. III. c. 38.

From 1758, the time of passing the said act, 31 Geo. II. c. 10, when Mr. Grenville so ably filled the office of first lord of the admiralty, down to Mr. Dundas's time, scarcely any parliamentary regulation appears to have been applied to disbursements on account of the navy; and these, increasing with the expense of our marine, to an amount beyond all former example, had opened a wide door to imposition on the seamen.

By the 26 Geo. III. c. 63, however, modes were prescribed for executing all wills and instruments of delegated authority; which, by making the superior officers of our ships (and other persons above the reach of corruption), necessary witnesses to all such deeds, struck at the root of forgery. Every sort of guard was meant to be provided by it (as far as human nature in the character of a British seaman can be guarded), to protect the thoughtless and ignorant; or at least to insure that the act of the sailor, thus legalised, was not done under the influence of fear, false pretences, or intoxication.

M Dundas's attention was in the next place

directed to the protection of that property which devolved upon widows and other representatives of seamen dying in the service, and leaving arrears of wages due to them. This portion of the sailor's reward seldom reached the door of his disconsolate widow and helpless children. The same class of people who had hitherto defrauded him, being no longer able from the operations of the above-mentioned act to interfere with his property while he continued in the service, now turned their designs upon intercepting that part of it which he should leave behind him in the event of his death. This was principally effected by means of wills made in their own favor, and which, under false pretences, they easily procured from the unsuspecting sailor; and there is reason to believe that no less than one-half of the arrears due at the end of the war before mentioned was obtained by such impositions, or by entire forgeries of wills, which were not at that time directed to be attested and executed under sufficient regulations. It is true, indeed, that many of those sharpers forfeited their lives for their crimes: but many more, and particularly the most artful of them, escaped even without a prosecution.

Against these infamous practices an act of parliament was passed (32 Geo. III. c. 34), which Mr. Dundas framed with great ingenuity and promptitude. And, in a letter dated 1st August, 1792, he caused a general abstract of the several acts respecting the payment of seamen's wages to be forwarded to the respective ministers of every parish in Great Britain, and explained the general purport of the regulations contained in the last, pointing out in a particular manner that the representatives of seamen had only to address to the treasurer of the navy a plain letter, stating the ground of their pretensions; that, upon being found to be just, the necessary papers should immediately be sent to them from his office to be executed; and that the money should afterwards be paid to them by the revenue officer living nearest to the place of their residence. By the above and another act, which Mr. Dundas introduced, all those protections and privileges which had hitherto been enjoyed exclusively by the seamen were extended also to the marines, and, in the same session, the benefits arising from them were also extended to persons residing in Ireland; to whom also the benefit of 3 Geo. III. c. 16, as to our pensioners of Greenwich Hospital, was extended. By stat. 55 Geo. III. c. 60 the acts 26 Geo. III. c. 63; and 32 Geo. III. c. 34, and also so much of any other acts in force as related to letters of attorney, and wills of petty-officers, seamen, and marines, are repealed, and new provisions enacted respecting the same, upon the like principles; but with such more effectual powers as experience had shown to be necessary: And see further on 56 Geo. III. c. 101.

It was reserved for Mr. Dundas likewise to establish a system of remittance and supply, so extensive as to convey relief into every corner of the kingdom to the scattered families of our brave defenders. Provisions were made by an act of parliament, which he procured to be passed in 1795, 35 Geo. III. c. 28 (explained and en-

forced by 37 Geo. III. c. 53; 46 Geo. III. c. 127; 49 Geo. III. c. 108; 53 Geo. III. c. 60; 57 Geo. III. c. 20), for a regular monthly supply to be paid to the wife and each child, or to the parent of every seaman, who was willing, upon a representation being made to him, to allow a portion of his pay to be appropriated to the support and comfort of his family during his absence. The advantages of this act, 35 Geo. III. c. 28, were, by another of a similar nature, extended to non-commissioned officers and their families. See 35 Geo. III. c. 95.

The higher classes of the service, as well as the lower, have felt the good effects of Mr. Dundas's measures. In the session of 1795 he obtained an act, 35 Geo. III. c. 94 (amended by 57 Geo. III. c. 20), by which naval officers, who may not be in affluent circumstances, are enabled to accept commands, or to undertake other services, without pecuniary embarrassment. For this purpose the arrears which may be due to an officer from his half-pay, and three months of his full pay, are paid him in advance, as soon as his appointment takes place. A fund is also provided for those who may wish to receive a part of their pay whilst employed upon foreign service; and the principle of remittance is extended to every one who shall be desirous to avail himself of its advantages. In whatever part of the world an officer on service happens to be, he may now, at the expiration of three months, draw bills of exchange for his present support, or for that of his family at home; and instead of applying to his agent for advances, ruinous from the accumulation of interest, agency, and other charges (amounting to at least 16 per cent.), he may, without such intervention, receive directly into his own pocket the reward of his merit. Following him also into his retreat in the time of peace, the benefit of these regulations still attends him. There is no residence, however remote, in which either officers on half-pay, or the relations of such as have fallen in battle, or the disabled from wounds and infirmity, may choose to settle, but where they may be supported at their own doors. Such ease and security in receiving their money greatly enhances the value of the several rewards which their country bestows upon them. The half-pay of officers, all pensions from Greenwich Hospital, and all other naval allowances (excepting the pensions of officers' widows, which are not paid by the treasurer of the navy), are thus paid free of expense by the revenue officer living nearest to the place of residence of the party entitled to receive them. By 37 Geo. III. c. 53 the pay and allowances to petty officers, seamen, and marines, was increased; and they are declared entitled, when wounded, to receive the full amount of their wages till their wounds are healed, or they are provided for in Greenwich Hospital, &c. See GREENWICH HOSPITAL. In pursuance of the same plan, for the comfort and relief of the defenders of their country, it has been provided by several acts, the last 46 Geo. III. c. 52, that letters to and from non-commissioned officers, seamen, and privates, in any departments of the army, navy, or militia, be subject only to *1d.* postage. See also stats. 47 Geo. III. st. 1 c. 52;

51 Geo. III. c. 105, for establishing and supporting the royal naval asylum for the education of orphans of officers and men of the navy and marines. Acts are usually passed during war for regulating the payment of prize money. See 54 Geo. III. c. 93; 55 Geo. III. c. 160.

The pay and wages of one man in 100, of every ship of war, and value of his victuals, are applied for relieving poor widows of officers of the navy, stat. 6 Geo. II. c. 25. Able seamen, who voluntarily enter on board ships of war, shall receive £5 besides their wages, and ordinary seamen £3. And if any seaman, under a commission or warrant officer, who enters into the service, be killed or drowned, his widow, on certificate to the commissioners of the navy that she is such, is to have, by way of bounty, one year's wages, according to the pay for which he served.—Stat. 14 Geo. II. c. 38.

The observations of M. Dupin on the 'Force Navale' of England, while sufficiently imbued with the spirit of national rivalry, are yet so able and comprehensive as a whole that a pretty ample analysis of them (for which we are mainly indebted to the Quarterly Review), will not be uninteresting in this place.

M. Dupin, in investigating the cause of that *vast superiority* of the British over the French navy, in all its departments, civil and military, endeavours to account for it from the general popularity of the service, and the high encouragement given to those who enter into it. These, he thinks, may be ranked among the first of moral causes, which, operating upon others of a local or physical nature, have contributed to raise the navy of England to that high pitch of power and glory which it attained in the late revolutionary war. The local circumstances which naturally create an attachment to the seafaring life are thus described:—'The metropolis of the British empire includes, within its walls, the most frequented port in the universe. It is the commerce of the sea which alone has made London the most populous and the most wealthy of the capitals of Europe; vessels from 100 different countries wave their flags upon the Thames, in the very bosom of this immense city; nevertheless there the British flags alone surpass in number those of so many other nations. The citizen of London is justly proud at the sight of so many fleets of merchant-ships, which daily arrive from the sea, or descend the river: these to export the products of the national industry, those to import foreign produce or treasure. He cannot contemplate this immense bustle without being convinced that the commerce and the sovereignty of the sea have created the wealth and the grandeur of his native city.'

But these results of a mercantile navy are not confined to London alone.—'Edinburgh,' he continues, 'on the shore of the most beautiful gulf of Scotland; Dublin, opposite to England, and on the spot most convenient for a rapid communication between London and Ireland; Quebec, on the banks of the river St. Lawrence, the Thames of Canada; Calcutta, on the borders of the Ganges; Halifax, on the northern coast of America; and the city of the Cape on the

southern extremity of Africa, on that point of storms which must be doubled in order to communicate between India and Europe—in a word, in all parts of the world the central points of the British power participate in the benefits of the commerce of the sea; and by these benefits contribute to the splendor, the wealth, and the power of the people and of the government. In England, in Scotland, in Ireland, not only the capitals, but a multitude of cities of the first rank are also built on the sea-coasts, or on the borders of large navigable rivers—Bristol, Hull, and Liverpool; Dundee, Aberdeen, and Glasgow; Belfast, Cork, and Waterford, are united by commerce with all the cities, with all the manufactories of the interior; and the interests of the maritime cities are, at the same time, the interests of the whole country. No country in the world is so well intersected with roads and canals, upon which goods and people are conveyed with extreme rapidity, from one extremity to the other of every county; there is no one point within the three kingdoms whence one may not, in four-and-twenty hours, arrive at one or other of the seas which surround them.'—tom. ii. p. 2, 3.

To these facilities and conveniences, accustoming young people to voyages by water, M. Dupin adds the universal fashion of visiting the sea-coasts in the bathing season, by that class of society which in France, he says, is destined to retire at that period to their estates in the country. These visits to the coast give rise to numerous parties of pleasure, which venture out upon the sea; these, with the fleets of shipping passing and repassing, all contribute to create a prejudice in favor of navigation, and to excite that passion for sea voyages which kindles in a thousand hearts; 'elle livre à la navigation militaire, ou marchande, ou savante, une foule de volontaires, qui reviennent dans leur patrie, avec des trophées, des trésors, ou des connoissances nouvelles: dignes conquêtes de la mer!'

From these and other causes M. Dupin observes that, 'In the eyes of the people of England, the marine is the natural element of the British power, and ships are the moveable ramparts of the territory of Albion. It is not merely in the figurative language of poetry, but in the most familiar language of conversation, that Englishmen, in speaking of their ships of war, emphatically call them 'our bulwarks, our wooden walls.'—tom. ii. p. 4.

M. Dupin assigns another and a solid reason for the preference shown by our countrymen to the navy over the army—it is, that the former never can endanger the liberties of the people, while a standing army places them in jeopardy: add to this that, the promotion in the navy being gratuitous, talent and valor are sure of succeeding in that service. Another consideration is the liberal shares of prize-money to which the superior officers are entitled, and which cannot fail to inspire a well-grounded hope of the acquisition of an independent fortune. 'In short,' he concludes, 'while admirals and post-captains enjoy all the favors of the court, fill a multitude of honorable situations near the person of the sovereign, arrive in considerable numbers at the

peerage, and represent, for several boroughs and counties, the people in the house of commons, we find only a small number of general officers and colonels who have received such marks of favor and confidence, whether from the prince or from the people.'

Here, however, M. Dupin is, as to the present time, mistaken. In the list of the house of commons there were lately thirteen admirals and captains representing the navy, while there are no fewer than five-and-forty generals and colonels of the army; and, if M. Dupin had taken the trouble to consult the Red Book at the period of his own work's appearing, he would have found about a dozen general officers as lords and grooms of the bed-chamber, to one solitary admiral and a post-captain of the navy! He is more correct in quoting the honors bestowed on Howe, St. Vincent, Duncan, and Nelson, as proofs of the value set on naval exploits by the government; and as a testimony of the national gratitude to our officers, seamen, and marines, the public thanks given to them by the representatives of the people in parliament: but we lay no great stress on a circumstance, which he thinks remarkable, that, after the great naval victories obtained by the four officers above mentioned, medals should have been given to the admirals and captains only, while, after the battle of Waterloo, all the individuals of the army, engaged on that day, were permitted to wear that distinguished mark of approbation from the officers of the highest rank down to the lowest soldier. Medals, in our service, seem never to have been systematically adopted; but have occasionally been distributed, incidentally or capriciously, and not on any known principle; and on this account have never created any jealousy between the two services. We admit, however, that there is something in the following observations, which, to a foreigner, could not fail to place the superior popularity of the navy in a striking point of view. 'I have traversed the greater number of the most considerable cities of Great Britain, and every where, even in places the most secluded, on the wildest borders of the north of Caledonia, I have seen durable monuments erected by the gratitude of the natives to the memory of Nelson. Let us now compare these innumerable monuments with those which that victory, the most important ever gained by the British army, has produced. Trafalgar had not completed the downfall of the French empire, and Waterloo crushed this imperial fabric, restored from its ruins as if by enchantment—Waterloo delivers England and Europe from the terrors which they had so long felt, and made them tremble at the sight of the French eagles—Waterloo places (at least for some years) the British power at the head of the coalition of the continental governments. Notwithstanding these things, in traversing the three kingdoms, one looks in vain for frequent monuments in celebration of this memorable triumph. The names given to a certain number of streets and squares, a few inscriptions, here and there a statue, the name of a bridge, built for a special purpose before the campaign of the Hundred Days had

commenced,—these are all that remain in England to perpetuate the memory of a victory obtained by sacrifices, the burden of which still weighs heavily on a people restored to their sober senses (*désenivré*).—tom. ii. p. 12.

'All the arts and sciences connected with the navy and navigation in general, have experienced in England,' as a writer in the Quarterly, No. 41, observes, 'the public patronage. From the days of Newton the parliament of Great Britain has not ceased to offer the most splendid rewards for discoveries in geography, and improvements in navigation. Thus the sum of £10,000 was granted to Mr. Harrison, for the invention of a time-piece; to the widow of Mayer £3000 for the Tables of the Moon, published by that excellent astronomer; and £300 to Euler, for some theorems on the same subject. About the same time a reward of £20,000 was offered for the discovery of a north-west passage, and since renewed with certain modifications, which enabled that able and intelligent navigator, Captain Parry, to obtain a portion of it amounting to £5000. As a further proof of the extraordinary encouragement held out by us for whatever may be turned to the improvement of the navy, M. Dupin mentions the splendid sum of 400,000 francs, besides all expenses, granted to that ingenious artist, Brunel, as a reward for his invention of the block machinery; and 100,000 francs, with a considerable pension for life, to Sir Robert Seppings, for his most important improvements in naval architecture.'

M. Dupin admits, and laments, that these matters are managed very differently in France. Louis XIV., he observes, has deservedly been praised for his munificence towards learned men; but his largesses, unlike those of the parliament of England, never extended to the offer of £500,000 to the man of science or the artist who should successfully resolve one single problem really useful; and with regard to the liberality of Buonaparte,—a single example, he thinks, will suffice to show what kind of encouragement was held out, by this patron of the arts and sciences, to the French navy. 'When the engineer Hubert had constructed at Rochefort the beautiful mill which serves at the same time for cleansing the basin or inner harbour, the rolling and turning of metals, the mixing of colors, &c., the minister, Decrès, caused a remuneration to be made to him of 600 francs! (£25!); and this is the only instance of a reward being decreed, under the imperial government, to officers of genius. Those even which the law prescribed to be given on the launching of each ship of war, were not bestowed, trifling as they were. Thanks to this parsimony, during the whole period of which we are speaking, the sciences and the arts connected with the French navy remained stationary!'

'Every one knows,' says M. Dupin, 'what disorder prevailed in all the branches of the naval administration during the first years of the French republic. On the one hand, anarchy, insubordination, plunder; on the other, presumption, prejudice, ignorance, destroyed all the good which a small number of officers were able to produce, who alone had any idea of the true

principles of a well organised navy. 'But,' he adds, 'order appeared to be restored under the consulate, and under the empire; though it was an order that was directed more towards the preservation of the matériel than the amelioration of the personnel. Disaster after disaster occurred; but the tribune was dumb, and the public journals were gagged, and nothing was permitted to be said or published respecting the navy without the formal sanction of the minister.' As new defeats added to their shame, an official article, 'drawn up,' as he tells us 'by the hand of impudence,' appeared in the *Moniteur*, for the purpose of proving to Frenchmen that the loss of their colonies was advantageous to their navy. In the prince regent's speech to parliament, in 1811, it is observed that 'the conquest of the isles of Bourbon and Amboyna has further diminished the number of the enemies' colonies; upon which the *Moniteur* has the following commentary:—'Under existing circumstances, Martinique, Guadeloupe, the Isle of Réunion, and the Isle of France, contributed nothing to the mother-country, and cost her more than the sum of 20,000,000 every year. With 20,000,000 we can build ten ships of war in the year; it follows then that in the course of five or six years, which the present war may continue, we may have fifty sail of the line. The colonies occupied by the English will be restored to the mother-country, either at the conclusion of peace or when the empire shall have 120 ships of the line, with 200 frigates and smaller vessels. This period, which is foreseen and calculated, is not very far from us!'

After stating at some length what, in his opinion, ought to be observed with regard to the nature and the number of ships of war to be kept up by France, our author gives, as a contrast, a true picture of Napoleon's navy. 'To dazzle the eyes of the vulgar by the parade of numbers, they seemed to estimate our naval force by the enumeration of our masts and sails. The rapid increase of the matériel of our fleet was pompously announced to all Europe. But what was the actual condition of that fleet? Constructed in a great degree with materials of the very worst quality, it was manœuvred by crews composed of recruits, the greater part strangers to the sea service, and moreover strangers to our national interests. Germans, Italians, Illyrians, and Greeks, were mingled with French seamen. These foreign subjects of the great empire, ill paid, ill fed, ill treated, served France with rage and hatred in their hearts; full of cunning and of courage to desert a service which they abhorred, they were cowards in defending the honor of a flag, the symbol of their slavery—these were the support and the companions which were given to our inexperienced seamen. Moral power was equally wanting with physical strength to this mass of involuntary navigators. The finest men and the best seamen were called away to serve in the train of the troops of the line, or rather in the train of the Imperial guard; and the refuse of seafaring people was reserved for the navy. In order to fill up the skeletons which were weakened every hour, they enrolled, without selection, and without distinction, the weak,

the impotent, the rickety; they kept on board the maimed, the convalescent, and the incurable, in order to present to the emperor, to the empire, and to Europe, the state of a personnel, imposing by its numerical force, and contemptible by its real weakness.'—tom. ii. p. 85.

Over such a navy it is no great compliment to assert an immeasurable superiority on the part of Great Britain. But, when that of France was in its most healthy state, the English navy is admitted to have been pre-eminently superior; a fact which M. Dupin mainly ascribes to the perfect state of discipline which prevails in every branch of the service, and the rigid adherence to promotion by seniority in the upper classes, and to rank and command in all. The power which is given to the flag-officers commanding squadrons, under the admiral commanding-in-chief, to inspect and examine into the good order, the cleanliness and discipline of each individual ship placed under their respective commands, characterises and constitutes, in his opinion, one of the great excellencies of the British navy. 'But in France,' he observes, 'the lowest captain of a ship of war believes himself the king, or rather the despot, of his quarter-deck. He cannot conceive that an admiral should have the right of coming on board to enquire with his own eyes into the manner in which the details of the service are carried on; and it is as much as can be expected if, in the performance of evolutions, this same captain will condescend to abstain from a disobedience of the signals which may point out to him the conduct to be observed by his ship.' 'This fatal spirit,' he adds, 'of insubordination, greater before than since the Revolution, must be rooted out of the French navy before it can hope to obtain success to any great extent.'

The cool, quiet, and determined manner in which the officers give their orders, the readiness and regularity with which they are executed, and the imposing silence of the crew, on board an English ship of war, when actually engaged in battle, also strike our author. 'C'est le calme de la force, c'est le recueillement de la sagesse.' 'In the midst,' says M. Dupin, 'of the most complicated operations, and even in the heat and hurry of battle, the words of command only are heard, pronounced and repeated distinctly and coolly from rank to rank—no intemperate councils, no murmurs, no clamor, no tumult. The officers think in silence, and the crew act without speech or thought.' This perfection of subordination, however, he ascribes, in a certain degree, to the phlegmatic character and the natural taciturnity of the English; at the same time he is of opinion that similar results might be obtained even from the vivacious Frenchmen of the south; 'for,' says he (an inference which we do not clearly comprehend), 'the inhabitants of Great Britain are naturally less active than the French, and especially than the inhabitants of the south of France!' But, if the administration of the British navy exacts from inferiors an entire obedience to the orders of their superiors, it also exacts from these, as M. Dupin justly observes, an example of all the military virtues, and more especially of daring enterprise and unques-

tionable courage. 'The English,' he adds, 'like the Carthaginians, punish with death the admiral who, engaging with a force nearly equal, does not gain the victory.'

The mode in which the great Napoleon managed matters of this kind is thus stated by M. Dupin.—'Captains,' he says, 'evidently culpable, were delivered over by him to the maritime courts: they were acquitted by the judges, who were delighted to establish the point in naval jurisprudence that a man might be imbecile or pusillanimous in battle, without incurring the punishment due to that incapacity which compromises the public interest, or that cowardice which dishonors the national flag. Sometimes Napoleon deposed the members of these courts, and wished to retry that which the law permitted to be tried only once. This was only acting the despot without remedying the evil. He had done better by consulting public opinion; by endeavouring to know beforehand those men so lenient towards crimes against honor; never to have trusted them with commands, but to have placed them without delay on the retired list.'—*tom. ii. p. 18.* We have a further specimen of his imperial majesty's ideas of justice, and of the encouragement which he gave to the navy, in an official communication in the *Moniteur* of November, 1811: 'The minister of the marine shall cause the laws of the empire to be executed. The commander of the *Clorinde* shall be brought before the tribunals for having taken so small a share in the battle * * * for having preferred life to honor,' * * * 'Thus,' observes M. Dupin, 'the sovereign authoritatively decides on the infamy of an officer whom he is about to try!'

In naval tactics, as well as discipline, M. Dupin candidly avows the English are far superior to the French; and he thinks it would be very desirable that some one of the French officers who, in the course of the last war, had the misfortune to serve on board an enemy's ship, would give his countrymen a faithful description of the principal manœuvres, and of the order in which they are executed on board an English ship of war. 'One might then,' he continues, 'compare the means of action of our rivals with those in use with us, and give the preference to the best.' Strictly speaking, however, it is not the manœuvring a single ship, or the state of discipline on board that ship—it is the management of a fleet, with regard to its order of sailing and forming the line, to the principles of attack and defence, which may properly be called naval tactics. In the early part of our history, when artillery was unknown, these principles were disregarded, because the value of them could not be perceived. The ships were small, and their armament simple and rude; they engaged stem to stem, or broadside to broadside; and the men fought hand to hand, and foot to foot. The main object was, then, the destruction of life. When Edward III. attacked the French fleet collected at Sluys to oppose his landing, the English, after pouring in a volley of arrows, boarded the enemy's ships and gained the victory, with the loss of 4000. Of the French more than 30,000 perished, the greater part of whom were driven overboard and drowned: whereas the

victory of the Nile was obtained at the expense of 218 men killed, and 677 wounded; and the glorious and decisive day of Trafalgar, at somewhat less than 420 killed, and 1112 wounded.

The practice adopted by the French of retiring in good order, with little or no damage, caused, M. Dupin says, 'not only our rivals, but other nations, to adopt the disgraceful opinion, that a French fleet could not face an English fleet of equal force.' But the real fact, he tells us, was that their admirals had orders to keep the sea for the longest possible time, without coming to an action, in which the result might be the loss of ships too expensive to be replaced; and, if forced to engage, to avoid, with the greatest care, compromising the fate of their fleet by a conflict too decisive. Such an order, he says, obliged them to fight retreating, by which they acquired the disastrous habit of yielding the field of battle as soon as an enemy, though inferior, appeared disposed to dispute it with courage. 'Thus, then,' he adds, 'to maintain, at a great expense, a naval armament; to forbid it from making the best use of its effective power; to send it in search of an enemy; to retreat shamefully from its presence; to receive battle instead of offering it; to commence an action only to finish it by the phantom of a defeat; to lose the moral for the sake of sparing the physical force—formed the principle which, from the declining energies of the reign of Louis XIV. to the mistakes of Napoleon (with a few brief exceptions), has guided the administration of the French marine,—'the consequences are well known!'

This author ridicules, not unsuccessfully, 'what he terms the pious respect of his countrymen for the sacred order of the line of battle' to which the combined fleets were sacrificed at Trafalgar. While Nelson advanced in two close columns to overwhelm the centre of this 'sacred line,' the two wings remained immovable; they were 'in line,' he says, and that was enough; and in this position they looked on 'avec une effrayante impassibilité,' until the centre was destroyed—then, and not till then, forgetting all respect for the sacred order of the line, they thought, not of seeking to remedy any part of the evil, but of making their escape. The fact is, the commander-in-chief was thrown into confusion by a mode of attack so unusual, and which might have been followed by a different result had the combined fleets, instead of remaining in that state of impassibility while the destruction of the centre was going on, hauled their wind in one or two lines, which would have obliged Nelson to change his order of sailing in two columns into a line of battle. It was neither from any premeditated plan of attack on the part of Nelson, nor from any particular predilection for the advance of two columns; but, as we are officially informed by lord Collingwood, to avoid the inconvenience and delay in forming a line of battle in the usual manner, that he was induced to bear down upon the enemy in the order of sailing; and, as the combined fleets kept their positions, Nelson, with a happy and instinctive promptitude, saw instantly that the most decisive result would ensue from pressing with his whole force upon their centre.

‘If,’ M. Dupin says, ‘we would appreciate the real force of a ship of war, we must not say, a ship is a floating battery, with which one can scarcely, in battle, kill or wound more than a fourth, or a fifth, or a tenth of the seamen of another ship of equal force. We should say, a modern ship of war is a floating battery, which can only be compelled to yield to batteries of the same description. It is a fortress which is able to resist the sea, in all seasons, in the midst of every tempest. It is a fortress which transports itself with a rapidity infinitely superior to that of the lightest troops of a land-army, in such a way as to run over a fourth part of the great circle of the globe in less time than a continental army can pass from Spain into Poland, or from France into Russia. Now, when such immense marches are undertaken, the naval army experiences neither fatigues, nor privations, nor wants, nor those epidemics which destroy so many land armies. Without accident to her crew, a ship of war passes the winter in the midst of the polar ice, in a degree of cold exceeding that which caused the destruction of the finest army that modern times have seen. In short, a naval force not only transports itself, exempt from suffering and fatigue; it transports the land army, and communicates to it its own movements. By means of it those powers who have only a small number of soldiers are enabled to multiply them by sudden and unexpected disembarkations on all the vulnerable points of an enemy’s coast.’—tom. ii. p. 72.

In fine, the victories of Howe, Nelson, St. Vincent, Duncan, which annihilated the navies of the maritime powers of Europe, were accomplished with a waste of human life incomparably small when measured with the result of a single land-campaign: yet how superior the consequences! Let our author himself sum up the splendid account:—‘Towards the end of the seventeenth century the maritime wars were confined, on the part of England, to the fighting of a few battles with one or two fleets; to the making a few cruises, a few detached blockades, or some particular enterprise; and these were sufficient for the labors of a campaign. But in the naval war, of which the nineteenth century has witnessed the commencement and the termination, England conceived the idea of attacking, nearly at the same moment, the fleets of France, of Spain, of Holland, of Denmark, of Italy, and even of America; she opposed herself to all the maritime powers. She not only blockaded all the military ports which could give refuge to some squadron or some flotilla, she blockaded every commercial port; and this spectacle we have seen, of which, till then, no maritime power had afforded an example—the inhabitants of an island, moderate enough in its extent, became enabled to form, with their ships of war alone, a continued line of observation along all the coasts of Europe, of Asia, of Africa, and of America. All the continents of the two worlds were simultaneously besieged, their islands taken by main force, the commerce of the world usurped. In short, after twenty years of fighting, this naval power, which had begun the struggle with 30,000,000 of subjects, finished it by consoli-

dating her empire over 80,000,000 of the conquered and conquering. And, moreover, let us recollect that Great Britain has never reckoned, during this period, more than 145,000 seamen and marines, employed in producing these prodigies.’—tom. i. p. 238.

The attention paid in the British navy to the health of the seamen is justly applauded by our author. He says (what is perfectly true) that, when lord St. Vincent commanded the fleet which blockaded Br. from the 27th May to the 26th September, 1800, not a single day passed without his reconnoitring the entrance of the harbour; and that, although the seamen had only the ordinary ship’s provisions, and consisting at the least of 16,000 men, there were only sent, during the whole of this time, sixteen to the hospital. In fact, by the wise and humane regulations now established in the British navy; by the excellence of the provisions; by the purity of the water since the introduction of iron tanks; and by the pains bestowed to keep the ships dry, well aired, and cleanly between decks, the most dangerous diseases, such as the scurvy and typhus fever, which used to be the scourge of the navy, have been totally eradicated from our ships of war: those that remain, as is justly remarked by our author, are of an inflammatory nature, arising from an excess of strength rather than debility. Of the extraordinary improvements which have taken place in British ships of war for the preservation of the lives of seamen some curious facts are on record. The total number of seamen raised during the American war was 175,990, of whom 18,545 died a natural death, and 1243 were killed, mangled in the whole 19,788 death in the last five years of the war; but the average number employed was about 70,000, which, for every 100,000 seamen employed, would give an annual loss of 5911 men. M. Dupin calculates that in the same number our land army lost, in the course of the last war, 5930 men. The following table gives at one view the progressive diminution of sickness and death in the naval service, calculated on 100,000 men:—

Year.	Sick sent to Hospital.	Deaths.	Deserted.
1779	40,815	2,654	1,424
1782	31,617	2,222	993
1794	25,027	1,164	662
1804	11,978	1,606	214
1813	9,336	698	10

By this table it would appear that the diminution of sick and of deaths was in the proportion of four to one nearly between the years 1779 and 1813. The diminution of desertions from the hospitals in the same period is not the less remarkable, and affords the strongest proof of the progressive amelioration of the condition of seamen on board our ships of war. ‘Man,’ says M. Dupin, ‘employs all the means within his reach to fly from a kind of life which presents only the hideous picture of privations while afloat, or sickness, suffering, and death in a hos-

pital. But when every cause of discontent, of disgust, and of alarm is diminished and made almost to disappear, the sailor holds very cheap the fatigues and the dangers of the sea and of battle, and no longer thinks of deserting.'

M. Dupin has given a statement of the actual loss of men sustained by the British fleet in each year, commencing with 1810, when every captain was ordered to transmit a list, made up to the 1st January, of all the deaths that had taken place under his command in the preceding year. The result was as under:—

Years.	Number employed.	Deaths by disease, accident, or in battle.
1810	138,581	5,183
1811	136,758	4,265
1812	138,324	4,211

About one-half of the above numbers died of disease, the other half in fight, by accidents in landing, boats upsetting, shipwrecks, &c. It follows then that, in the three years above-mentioned, the proportion of deaths in 100,000 men employed afloat was 3·92; and if to these we add the number of seamen who, in the following year, died in the hospitals, namely 698, the total loss of life in that year, out of somewhat more than 100,000 men, may be estimated 4000 men. 'Thus,' says M. Dupin, 'in the latter years of the war against the French empire, the English navy lost only about a twenty-fifth part of its whole force;' and he adds, on what authority we know not, that the loss in the British army, about the same period, on an average of six years, was 12,356 in every 100,000 men, that is to say, about one-eighth part of the whole; and the unavoidable conclusion is, that there is at least three times more risk of life to serve in the army than in the navy of Great Britain. Taking the number of seamen that died of disease alone, afloat and in the hospitals, we have 2349 in 100,000 men, that is to say, a forty-second part of the whole.

NAULUM, a piece of money put into the mouth of a person deceased among the Romans, to enable him to pay Charon the ferryman for his passage. It was to be of the current coin of the reigning emperor; and from this money, therefore, the time of the person's death may be known. The sum for poor men was a farthing, but the rich in general were very liberal in their naula, as appears from the number of coins often found in the neighbourhood of Rome on opening the graves of great men. Charon was looked upon as a very morose and obstinate old fellow, who would not carry over any man without his fare; and hence the proverbial use of that verse in Juvenal,

Furor est post omnia perdere naulum.

A similar custom took place among the Greeks; with whom the money put into the mouth of the deceased was called *Δαναον*.

NAUMACHIA, in antiquity, a show or spectacle among the ancient Romans, representing a sea-fight. These mock sea-fights are supposed

to have originated at the time of the first Punic war, when the Romans first instructed their men in the knowledge of naval affairs. Afterwards they were intended to entertain the populace, as well as to improve the seamen. They were often, like other shows, exhibited at the expense of individuals, to increase their popularity. In these spectacles they sometimes strove to excel each other in swiftness, and sometimes engaged in a warlike manner. The Naumachia of Claudius were a most savage diversion. The combatants used to destroy each other to amuse a tyrant and a cruel mob. As they passed before him they used this melancholy greeting, 'Ave Imperator, morituri te salutant.' The emperor replied, 'Ave te vos.' This they understood as an answer of kindness, and a grant of their lives; but they soon discovered that it proceeded from wanton cruelty, and barbarous insensibility. In the time of Domitian, such a vast number of vessels engaged as would have nearly formed two regular fleets for a real fight, and the channel of water was equal in magnitude to a natural river. Heliogabalus is reported to have filled the channel where the vessels were to ride with wine instead of water. Tritons and sea monsters were frequently exhibited during the engagement. Suetonius and Dio Cassius informs us that, at one of these sea fights of Domitian, a violent shower fell; the emperor, however, continued till the end of the engagement, often changing his clothes, nor would he suffer any one to depart; and, as the rain continued for several hours, many were seized with distempers, of which some died. Suet. cap. 4, Dio. lib. lxxvii.

NAUMACHIE were also places fitted up for these shows, with seats and porticos, &c. There were several of them at Rome; three built by Augustus, one by Claudius, another by Domitian, and another by Nero, which served for the reverse of his medals. Claudius used the lake Fucinus as a Naumachia.

NAUMBURG, a well-built city and bishop's see of Saxony. The bishopric was formed by Otho I. in 968. It has a citadel, three churches, and a town-school. The suburb contains several hospitals and an infirmary. The inhabitants, nearly 12,000, carry on manufactures of stockings, gloves, caps, &c. (which they send to Russia, Italy, and Spain); leather for which they have adopted the English mode of tanning; soap, starch, and gunpowder. Shoe-making is also carried on here on a large scale. Wine is produced in the environs: and Naumburg has two yearly fairs. Eighteen miles S. S. W. of Merseburg, and twenty-eight W. S. W. of Leipsic.

NAUPACTUS, or NAUPACTUM, in ancient geography, a city of Ætolia, at the mouth of the Evenus. The name is derived from *ναυς* and *πηγνυμι*, because it was there that the Heraclidæ built the first ship which carried them to Peloponnesus. It first belonged to the Locri Ozolæ, and afterwards fell into the hands of the Athenians, who gave it to the Messenians, who had been driven from Peloponnesus by the Lacedæmonians. It became the property of the Lacedæmonians after the battle of Ægospotamos, and it was restored to the Locri. Philo II. of

Macedonia afterwards took it, and gave it to the Ætolians; from which circumstance it has generally been called one of the chief cities of their country. There was on the shore a temple of Neptune, and near it a cave filled with offerings, dedicated to Venus, where widows resorted to request new husbands of the goddess. Pausan. lib. 10, p. 898.

NAUPLIA, in ancient geography, a maritime city of Peloponnesus. It was a naval station of the Argives. The fountain Canathos was near it.

NAUPLIUS, in fabulous history, a son of Neptune and Amynone, a native of Argos, who went to Colchis in the Argo with Jason. He was remarkable for his knowledge of navigation and astronomy. He built the town of Nauplia, and sold Auge daughter of Aleus to king Teuthras, to screen her from her father's resentment.

NAUPLIUS was also the name of a king of Eubœa, the son of Clitonas, and grandson of Nauplius the Argonaut. He was the father of the famous Palamedes, who was so unjustly sacrificed to the artifice and resentment of Ulysses by the Greeks at the Trojan war. To revenge the injustice of the Grecian princes, Nauplius endeavoured to debauch their wives, and ruin their characters. When the Greeks returned from the Trojan war, Nauplius, seeing them distressed in a storm on the coasts of Eubœa, to make their disaster still more universal, lighted fires on such places as were surrounded with the most dangerous rocks, that the fleet might be shipwrecked upon the coast. This had the desired effect; but Nauplius was so disappointed, when he saw Ulysses and Diomedes escape from the general ruin, that he threw himself into the sea. Some mythologists confound these two.

NAUPORTUM, or NAUPORTUS, a town on a cognominal river towards its source, in Pannonia Superior. The reason of the name, according to Pliny, is, that the ship Argo, after coming up the Danube, the Save, and the Laubach, was thence carried on men's shoulders over the Alps into the Adriatic. It was built by a colony of the Taurisci, a people on the confines of Noricum; now called Laubach.

NAUSEATE, *v. n.* & *v. a.* } Lat. *nausea.*
 NAUSEOUS, *adj.* } To become dis-
 NAUSEOUSLY, *adv.* } gusted; . turn
 NAUSEOUSNESS, *n. s.* } away with disre-
 lish or disgust: as an active verb, to loathe; re-
 ject with disgust; strike with disgust: the ad-
 jective signifies disgusting; loathsome: and the
 adverb and substantive follow these senses.

Those trifles wherein children take delight
 Grow *nauseous* to the young man's appetite:
 And, from those gaieties our youth requires
 To exercise their minds, our age retires.

Denham.

Pride fills a man with vanity, and an affectation
 of seeming wise in an especial manner above others,
 thereby disposing him to maintain paradoxes, and to
nauseate common truths received and believed by the
 generality of mankind.

Barrow.

While we single out several dishes, and reject
 others the selection seems arbitrary; for many are
 cried up in one age, which are decried and *nauseated*
 in another

Brown.

Old age, with silent pace, comes creeping on,
Nauseates the praise which in her youth she won,
 And hates the muse by which she was undone.

Dryden.

This, though cunningly concealed, as well know-
 ing how *nauseously* that drug would go down in a
 lawful monarchy which was prescribed for a rebel-
 lious commonwealth, yet they always kept in reserve.

Id.

The *nauseousness* of such company disgusts a rea-
 sonable man, when he sees he can hardly approach
 greatness but as a moated castle; he must first pass
 through the mud and filth with which it is encom-
 passed.

Id. Aurengzebe.

Food of a wholesome juice is pleasant to the taste
 and agreeable to the stomach, 'till hunger and thirst
 be well appeased, and then it begins to be less
 pleasant, and at last even *nauseous* and loathsome.

Ray.

Their satire's praise;
 So *nauseously* and so unlike they paint. *Garth.*
 The patient *nauseates* and loathes wholesome foods.

Black.

Those heads, as stomachs, are not sure the best,
 Which *nauseate* all, and nothing can digest. *Pope.*

He let go his hold and turned from her, as if he
 were *nauseated*, then gave her a lash with his tail.

Swift.

Old thread-bare phrases will often make you go
 out of your way to find and apply them, and are
nauseous to rational hearers.

Id.

Don't over-fatigue the spirits, lest the mind be
 seized with a lassitude, and *nauseate*, and grow tired
 of a particular subject before you have finished it.

Watts on the Mind.

But, when the breath of age commits the fault,
 'Tis *nauseous* as the vapour of a vault. *Cowper.*

NAUTICAL, *adj.* } Lat. *nauticus.* Per-
 NAUTIC. } taining to sailors.

He elegantly shewed by whom he was drawn,
 which depainted the *nautical* compass with aut *magnes*
 aut magna.

Candem.

NAUTILUS, *n. s.* Fr. *nautille*; Lat. *nau-tilus*.
 A shell fish furnished with something
 analogous to oars and a sail.

Learn of the little *nautilus* to sail,
 Spread the thin oar and catch the driving gale.

Pope.

The little *nautilus*, with purple pride
 Expands his sails, and dances o'er the waves.

Grainger

This animal is also supposed to have a power of
 sailing, though in a less perfect manner than the
 argonaut, or paper *nautilus*.

Shaw.

NAUTILUS, in zoology, a genus belonging to
 the order of vermes testacea. The shell con-
 sists of one spiral valve, divided into several
 apartments by partitions. There are seventeen
 species, chiefly distinguished by particularities
 in their shells. Bonani observes, that this genus
 of shell fish is very well named from the Greek
ναυτιλος, which signifies both a ship and a sail-
 or; for the shells of all the nautili carry the ap-
 pearance of a ship with a very high poop. Dif-
 ferent authors, both ancient and modern, have
 called the nautilus by the names of pompilus,
 nauplius, ovum polypti, polyptus testaceus: and
 the French call it le voilier. The chief division
 of the nautili is into the thin and thick-shelled
 kinds.

1. *N. concha margaritifera*, the thick-shelled
nautilus, has a very thick shell, and never quits

that habitation. This shell is divided into forty or more partitions, which grow smaller as they approach the extremity or centre of the shell; between every one of these cells and the adjoining ones there is a communication by a hole in the centre of the partitions, through which runs a pipe. It is supposed by many, that by this pipe the fish occasionally passes from one cell to another; but this seems improbable, as the fish would be crushed to death by passing through it. It is much more likely that it always occupies the largest chamber in its shell; that is, that it lives in the cavity between the mouth and the first partition, and that it never removes out of this; but that all the apparatus of cells, and the pipe of communication, serve only to admit occasionally air or water into the shell, in such proportion as may serve the creature for swimming. Authors call this shell *concha margaritifera*, on account of the fine color on its inside, which is more beautiful than any other mother-of-pearl; but it has not been observed that this species of fish ever produced pearls. The *cornu ammonis*, so frequently found fossil, must not be confounded with the thick-shelled *nautilus*, though the concamerations and general structure of the shell are alike in both; for there are great and essential differences between all these genera.

N. papyraceus, the paper-shelled *nautilus*. The shell of this species is no thicker than a piece of paper when out of the water. This animal is not at all fastened to its shell. There is an opinion, as old as the days of Pliny, that it creeps out of its shell, and goes on shore to feed. When it is to sail it expands two of its arms on high, and between these supports a membrane, which it throws out, and which serves for its sail; while the two other arms serve occasionally either as oars or as a steerage; but this last office is generally performed by the tail. When the sea is calm, it is common to see numbers of these creatures diverting themselves in this manner: but as soon as a storm rises, or any thing gives them disturbance, they draw in their legs, and take in as much water as makes them specifically heavier than that in which they float; and they then sink to the bottom. When they rise again, they void this water by a number of holes, of which their legs are full. This species must not be confounded with the *polypus*, notwithstanding the great resemblance in the arms and body of the enclosed fish.

NAXERA, a town giving title to a duchy, in the north-east of Spain, in the province of Burgos, near the Ebro. It has three churches, three convents, and 3000 inhabitants. In 1365 a battle was fought here by Peter, king of Castile, assisted by the prince of Wales, the Black Prince, and Henry, brother of Peter, assisted by the French, in which the former obtained the victory. Forty-four miles east by north of Burgos.

NAXIE, anciently **NAXOS**, the largest of the Cyclades, in the southern part of the Grecian archipelago, lying between Paros on the west, and Amorgo on the east, the meridian of 23° E., and the parallel of 37° N., intersecting each other nearly over the centre of the island. At the foot of a lofty mountain is still

to be seen the grotto of white marble where the priestesses of Bacchus used to celebrate their mysteries; and almost all the ancient monuments that are found here have relation to the god of wine. He is mostly represented as a bearded old man, crowned with vine leaves. Clusters of grapes, as large as the damascenes of our country, fine harvests, savory fruits, forests of olive trees, aromatic plants that perfume the hills on every side, and abundance of game still distinguish this island; its olives yield a fine transparent oil; the lemons are of an enormous size, and weigh sometimes several pounds; the land is watered by plentiful springs; the pastures are full of fat flocks, and in fine the surrounding rocks shelter it from all inclemency of the weather. The hollows of the rocks are filled with wild honey, and its quarries of emery supply all the ports of the Levant.

The Naxians defended their paternal soil for some time against the Persians, and, when at last they yielded to the superior forces of the enemy, they only waited a favorable moment to throw off the yoke. With their liberty the Naxians lost the energy of their minds, and seemed to abandon themselves to the softness and effeminacy inspired by the climate. At the beginning of the thirteenth century, when the French, setting out on their crusade against the infidels, seized on the Christian provinces of the Greek empire, and created for themselves independent sovereignties; the Venetians, following their example, sent their adventurers in search of Greek lands and lordships. One of these, named Marc Sanudo, made choice of Naxos, and the emperor of Germany, assuming a right which he did not possess, erected it into a duchy. The Sanudos and the Crispos ruled the island for three centuries; but were tributaries to Turkey; and at length their race so much degenerated that the Naxians, being no longer able to respect a court plunged in debauchery, sent a deputation to Constantinople, requesting deliverance from the Crispos. The Porte, however, with that contempt which it has always manifested for the Greeks, bestowed the sovereignty on a Jew, who was still more obnoxious to the islanders than a Crispo; the latter went to bury themselves in obscurity at Venice, and Miches, the Jew, more attached to the revenues than the honors of the government, deputed a Spaniard named Coronello to manage the public affairs. He had the address to make the islanders forget the disgrace they had suffered, and intermarried his family with the race of the dukes which is still in existence. After his death Naxos had no more independent lords, but from about 1600 has depended directly on the Porte, still preserving something of a republican regime, in which the ancient Venetian nobles, who were in possession of the finest lands, figured as a kind of aristocracy. The islanders were governed by their own laws, named their own judges and mayors, and were no longer harassed by a Turkish collector, who had ceased to reside in the island since the piracies so often committed had put his life and property in jeopardy. The nobility, proud of their descent, and like the European adventurers in America, as miserable

as they were proud, had not sense enough to ameliorate their condition, either by agriculture or commerce, and almost the only intercourse they had with the native Greeks was to be observed in the frequent quarrels between them.

On the side of the bay of Panormo the country presents a very wild appearance, and we meet only a few wandering shepherds clothed in woollen stuff garments, with red caps, and shod with buskins of goats' leather, with the hair turned outwards. These shepherds live mostly with their flocks in the open air, and have no other shelter than the bushes. They appear to be dependent on no head, and to have no women among them. An English traveller, who conversed with them in modern Greek, conjectures that this troop of nomades is recruited from the Albanian vagrants. There is good anchorage at Patonides, Panormo, Doriagatha, and Agraffo; but there is not a single port fit for vessels to enter in the whole island. Notwithstanding this disadvantage, it would wear a most flourishing aspect, if the industry of man did but second the rich bounty of nature. It is divided into one town on the southern coast, and from forty to fifty villages, containing about 10,000 inhabitants. It is about twenty-eight miles long from north to south, and twenty broad from west to east. In the interior are some ruins of ancient cities; one in particular, built on a hill, was formerly defended by a Venetian citadel, which the Turks destroyed; it was supplied with water by means of a subterraneous aqueduct. Another aqueduct conveyed the water to the temple of Bacchus, erected upon a rock in the sea, united to the main land by a bridge. Part of the front is still standing, and the foundations are still discoverable, constructed as it appears of the marble of the island.

The Catholic religion was introduced into Naxos by the Venetians, and it has become the chief place in the archipelago for that worship. There is an archbishopric and a chapter, with a seminary for Catholic priests of the Greek isles. There are also two convents and one nunnery; these have excellent vineyards which sometimes produce most abundantly. It is a custom here to plunge new-born infants into a large tub of wine as the ancient Spartans did. The women are beautiful and have more liberty than in any of the other islands. The eldest daughter bears the title of koura or kaira. A daughter's dowry commonly consists of a town or country house, and an olive plantation in the midst of which is a tower. These towers, which are of very ancient origin, and some little chapels, have a very picturesque effect in the country parts and on the sea-coast. The widows of this island are accustomed to mourn for their husbands most immoderately: they fill the air with their cries, refusing to change their garments, and arraigning the decrees of Providence. The climate is favorable to longevity; Spon mentions two Venetian nobles, one of whom had reached the age of 105, and the other was 115 years old.

NAXOS, or NAXUS, in ancient geography, an island in the Ægean Sea, now called Naxie, formerly Strongyle, Dia, Dionysias, Callipolis, and

Sicilia Minor. It was called Strongyle from a Greek word signifying round, though in reality it is rather square than round. The names of Dia or Divine, and Dionysias, were given it as being consecrated in a peculiar manner to Dionysius or Bacchus. That of Callipolis Pliny and Solinus derive from the metropolis of the island, formerly a most beautiful city, which is the import of the name Callipolis. The great fertility of the country gave rise to the name of Sicilia Minor, Naxus being the most fertile of all the Cyclades, as Agathemerus informs us, and no less so than Sicily itself. The name Naxus, some assert, was borrowed from one Naxus, under whose guidance the Carians possessed themselves of the island; others say from Naxus, the son of Endymion. Stephanus, Suidas, and Phavorinus, derive it from *ναχα*, to sacrifice, from the many sacrifices offered here to Bacchus. Bochart agrees as to the sacrifices in honor of Bacchus, but will have the word to be a corruption of the Phœnician *nacsa*, or *nicsa*, a sacrifice or offering. Naxos has Paros on the west, Myconos and Delos on the north, and Ios on the south. It was always famed for its excellent wines. Archilochus, as quoted by Athenæus, compares them to the nectar of the gods; and Asclepiades, cited by Stephanus, says, that Bacchus himself taught the inhabitants to cultivate their vines. It abounded also with all sorts of delicious fruits, and mulberry and fig-trees; was famous for quarries of that sort of marble which the Greeks call ophites, from its being green, and speckled with white spots like the skin of a serpent. Diodorus relates, that the island was first peopled by the Thracians. These were subdued by a body of Thessalians, who, having possessed the island for above 200 years, were compelled to abandon it by a famine. After the Trojan war the Carians settled here, and called the island Naxos, from their king, who was the son of Polemon. He was succeeded by his son Leucippus, and Leucippus by his son Smardius, in whose reign Theseus, coming out of Crete, landed here with Ariadne, whom he was, in his sleep, commanded by Bacchus to leave in this island. A colony of Cnidians and Rhodians afterwards settled here under Hippothous and Xuthus, the last of all the Ionians who possessed the whole island; whence the Naxians are, by Herodotus, called Ionians, and ranked among the Athenian colonies.

NAY, *adv.* } Sax. *na*; Goth. *ne*; Dan.
 NAYWORD, *n. s.* } *nei*; Lat. *fr. ne*; Ital.
na. In the oriental languages this negative particle is also similar, as in the Pers. *ne*; Sans. *na*. No; not so; not only so: nay-word is an obsolete expression for the saying nay; a bye word, or watch-word.

They have beaten us openly uncondemned, being Romans, and have cast us into prison; and now do they thrust us out privily? *nay*, verily; but let them come themselves and fetch us out. *Acts xvi. 37.*

My lord, quod she, I wote and wist away,
 How that betwixen your magnificence
 And my poverte no wight ne can ne may
 Maken comparison; it is no *nay*. *Chaucer.*

You would believe my saying,
However you lean to the *wayword*.

Shakespeare. Winter's Tale.

If I do not gull him into a *wayword*, and make him a common recreation, do not think I have wit enough to lie straight in my bed.

Shakespeare.

A good man always profits by his endeavour, yea, when he is absent; *nay*, when dead, by his example and memory; so good authors in their stile.

Ben Jonson's Discovery.

He catechised the children in his chamber, giving liberty, *nay* invitation, to as many as would, to come and hear.

Fell.

Disputes in wrangling spend the day,

Whilst one says only yea, and t'other *nay*.

Denham.

He that will not when he may,

When he would he shall have *nay*.

Prov.

This is then the alloy of Ovid's writings, which is sufficiently recompensed by his other excellencies; *nay*, this very fault is not without its beauties; for the most severe censor cannot but be pleased.

Dryden.

The fox made several excuses, but the stork would not be said *nay*; so that at last he promised him to come.

L'Estrange.

If a son should strike his father, not only the criminal but his whole family would be rooted out, *nay*, the inhabitants of the place where he lived would be put to the sword, *nay*, the place itself would be razed.

Addison's Spectator.

Nay, some there may be, perhaps, who will dispute his claim to the title of an epic poet, and will endeavour to degrade him even to the rank of a ballad-monger.

Canning.

NAYLOR, or NAYLER (James), a noted English enthusiast, born about 1616, in the parish of Ardesley, near Wakefield in Yorkshire. His father, though proprietor of an estate, gave his son but a mean education, though his talents were very considerable. He married young, and settled in Wakefield parish. In 1641 he was a soldier under lord Fairfax, being then a presbyterian, but became an independent, and was made quarter-master under general Lambert. In 1651-2 he was converted by George Fox, and commenced a preacher and prophet among the Quaker people. He went to London in 1655, and, having strange fancies of celestial illuminations, considered himself as a favorite of heaven. In 1656 he went into the west of England; but his extravagancies were so great, and his opinions so blasphemous, that even in those days of fanatical delusion they were heard with horror, and he was imprisoned a month in Exeter gaol. Resolving to return to London, he made his entrance into Bristol, in imitation of the manner our Saviour entered into Jerusalem, the people calling out 'Holy, holy, holy, Lord God of Sabaoth,' &c., for which mad conduct he was apprehended, with six of his associates, sent to London, imprisoned, and condemned to be whipped and put to hard labor. The sentence was executed, and he recovered his senses, expressed his repentance, and was again received by the quakers, who had disowned him. In 1659 he was freed from prison; and, in 1660, set off to see his wife and children; but, being robbed and left bound by the way, he was carried to a friend's house at Rippon, where he died in November 1660. Naylor is said to have uttered, on his death bed,

some affecting sentiments of calm resignation, which exhibit an intensity of feeling, and a beauty of expression, that show him to have possessed no common mind, and add greatly to the curiosity of his character. He was the author of several works; but his eccentricities, rather than his writings, have preserved his memory.

NAZAREAN, NAZARENE, or NAZARITE, has various significations. It originally denoted a man who had taken upon him the vow of a Nazarite to allow his hair to grow, to abstain from wine, &c. See Numbers, cap. vi. It also denoted an inhabitant of the town of Nazareth, which bore a bad character; and the epithet *Ναζαραεω* was therefore often applied to our Lord and to his followers as a term of reproach. The name Nazarene was given because of his having lived the greatest part of his life at Nazareth; the prophets also had foretold that he should be called a Nazarene. See Matt. ii. 23. We find no particular place in the prophets in which it is said that the Messiah should be called a Nazarene; and St. Matthew only quotes the prophets in general. Perhaps he would insinuate that the consecration of the Nazarites, and the great purity of which they made profession, was a type and a sort of prophecy of those of his Saviour. St. Jerome was of opinion that St. Matthew here alludes to that passage of Isaiah xi. 1, and lx. 21, 'And there shall come forth a rod out of the stem of Jesse, and a branch (Heb. Nezer) shall grow out of his roots.' This branch or Nezer, and this rod, are certainly intended to denote Jesus Christ, by the general consent of all the fathers and interpreters. Nazarite, when used to signify a person under the ancient law, denotes a man or woman engaged by a vow to abstain from wine and all intoxicating liquors, to let their hair grow without cutting or shaving, not to enter into any house that was polluted by having a dead corpse in it, nor to be present at any funeral. When any one died in their presence, they began again the whole ceremony of their consecration and Nazariteship. This ceremony generally lasted eight days, sometimes a month, and sometimes their whole lives. When the time of their Nazariteship was accomplished, the priest brought the person to the door of the temple, who there offered a he lamb for a burnt-offering, a she lamb for an expiatory sacrifice, and a ram for a peace-offering. They offered likewise loaves and cakes, with wine for the libations. After all this the priest or some other shaved the head of the Nazarite at the door of the tabernacle, and burnt his hair, throwing it upon the fire of the altar. Then the priest put into the hand of the Nazarite the shoulder of the ram roasted, with a loaf and a cake, which the Nazarite returning into the hands of the priest, he offered them to the Lord, lifting them up in the presence of the Nazarite. And from this time he might again drink wine, his Nazariteship being accomplished. As to those who were perpetual Nazarites, as were Samson and John the Baptist, it appears that they were consecrated to their Nazariteship by their parents, and continued all their lives in this state, without drinking wine or cutting their hair. Those who made a vow of Nazariteship out of Palestine, and

could not come to the temple when their vow was expired, contented themselves with observing the abstinence required by the law, and after that cutting their hair in the place where they were. As to the offerings and sacrifices prescribed by Moses, which were to be offered at the temple by themselves, or by others for them, they deferred this till they could have a convenient opportunity. Hence St. Paul, being at Corinth, and having made the vow of a Nazarite, he had his hair cut off at Cenchrea, and put off fulfilling the rest of his vow till he should arrive at Jerusalem. Acts xviii. 18. When a person found that he was not in a condition to make a vow of Nazariteship, or had not leisure to perform the ceremonies belonging to it, he contented himself with contributing to the expense of the sacrifice and offerings of those who had made and fulfilled this vow. When St. Paul came to Jerusalem, A. D. 58, the apostle St. James the Less, with the other brethren, said to him, Acts xxi. 23, 24, that, to quiet the minds of the converted Jews, who had been informed that he every where preached up the entire abolition of the law of Moses, he ought to join himself to four of the faithful who had a vow of Nazariteship upon them, and contribute to the charge of the ceremony at the shaving of their heads; by which the new converts would perceive that he continued to keep the law.—The Hebrew word Nazir, or Nazarite, made use of to express a man exalted to great dignity, as it is said of the patriarch Joseph, Gen. xlix. 26, and Deut. xxxiii. 16, ‘that he was separate from his brethren,’ as it is in our translation; or, as the Vulgate and others understand the Hebrew, ‘that he was as a Nazarite among his brethren,’ is variously understood. Some think that the Hebrew word נזיר, Nazir, in these places, signifies one who is crowned, chosen, separated, or distinguished: as the word נזיר, Nazir, signifies a crown. The LXX translate this word a chief, or him that is honored. Calmet thinks that this was a term of dignity in the courts of eastern princes; and that at this day in the court of Persia the word Nazir signifies the superintendant general of the king’s household, the chief officer of the crown, the high steward of his family, treasures, and revenues; and that in this sense Joseph was the Nazir of the court of Pharaoh. Le Clerc translates Nazir a prince, and calls Joseph ‘the prince of his brethren,’ in the two places already quoted. See Josephus, Chardin, Chrysostom, St. Jerom, &c.

NAZARETH, a little city of Judea, in the tribe of Zebulun, in Lower Galilee, west of Tabor, and east of Ptolemais. Eusebius says it is fifteen miles from Legion towards the east. This city is much celebrated in the Scriptures, for having been the usual place of the residence of Jesus Christ for thirty years of his life, Luke ii. 51, whence he was called a Nazarene. He preached there sometimes in the synagogue, Luke iv. 16: but because his countrymen had no faith in him, and were offended at the meanness of his origin, he did not perform many miracles there, Matt. xiii. 54, 58. Nazareth was situated upon an eminence; and on one side there was a precipice whence the Nazarenes one day had a

design of throwing down our Saviour, because he upbraided them with their incredulity, Luke iv. 29. St. Epiphanius says that in his time Nazareth was only a village, and that to the reign of Constantine it was inhabited by Jews alone, exclusive of all Christians. Adamnanus, a writer of the seventh age, says that in his time there were two great churches at Nazareth, one in the midst of the city, built upon two arches, in the place where our Saviour’s house had stood. Under the two arches was a very fine fountain, which furnished water to the whole city. The other church was built where the house stood wherein the angel Gabriel announced to the virgin Mary our Lord’s incarnation; and we are told that this church, which is supported by two arches, is still in existence. The chamber where she received the angel’s salutation was about 500 years ago removed from Nazareth by angels to Loretto. See LORETTO. Calmet’s opinion upon the different translations of this famous house of Loretto is, that they were only so many different buildings made upon the model of the church of Nazareth. In the east part of the city stands the church dedicated to the Blessed Virgin; which the zeal of the Cœnobites raised from the ruins of that which had been destroyed by the Saracens. It is a very handsome building, and consists of three naves; in the middle of which is the principal altar; to which there is an ascent by two magnificent stairs, much admired for their iron balustrades, the work of an ingenious monk of the convent. The descent to the grotto or annunciation chapel below is by steps of beautiful marble, cut with great taste. Two beautiful columns of oriental granite strike the eye at entrance. They have been constructed both for support and ornament. The altar of this subterranean chapel is extremely elegant; and the different kinds of marble with which it is ornamented receive an additional lustre from the combined light of several silver lamps presented by Christian princes. On solemn festivals the walls and the pilasters are ornamented with various pieces of tapestry, representing the mysteries of the Virgin; a superb present from the house of Austria. In the west part of the city stands a Christian church, built, as is said, on the site of the ancient synagogue where Jesus showed the Jews the accomplishment of the prophecies in his person. At some distance is a large stone of a round form, called Christ’s Table. Nazareth formerly held the third rank under the patriarch of Jerusalem. At present it is part of the domains of the chief of Acre. The ancient city, after the ravages of fanaticism, was reduced to a miserable hamlet, containing only a few Arab huts. Under Daher Omar, however, it recovered very considerably, and is now of far more importance.

NE, *adv.* Sax. *ne*; Goth. and Lat. *ne*. A particle formerly of frequent use, both singly and by contraction, as, nill for *ne will* or *will not*; nas for *ne has* or *has not*; nis for *ne is* or *is not*. Neither; and not.

His warlike shield all covered closely was
Ne might of mortal eye be ever seen,
 Not made of steel, nor of enduring brass.

NEAF, *n. s.* *islandic nefi.* A fist. It is retained in Scotland; and in the plural neaves.

Give me thy *neaf*, Monsieur Mustardseed.

Shakspeare.

NEAL, *v. a. & v. n.* Sax. *onælan*, to kindle. To temper by heat; to be tempered in this way.

Reduction is chiefly effected by fire, wherein, if they stand and *neal*, the imperfect metals vapour away.

Bacon.

The workmen let it cool by degrees in such relents of fire, as they call their *nealing* heats; lest it should shiver by a violent succeeding of air in the room of fire.

Digby.

This did happen for want of the glasses being gradually cooled or *nealed*.

Boyle.

If you file, engrave, or punch upon your steel, *neal* it first, because it will make it softer, and consequently work easier. The common way is to give it a blood red heat in the fire, then let it cool of itself.

Mozon's Mechanical Exercises.

NEAL (Daniel), an English historian and divine, born in London in 1678, and educated in Merchant Tailors' school. He afterwards went to Utrecht and Leyden. In 1706 he was elected pastor of a congregation of Independents in Aldersgate Street. He wrote a History of New England in 2 vols. 8vo., and a History of the Puritans in 4 vols. 4to., with some other works. He wrote also A Narrative of the Method and Success of Inoculating for the Small-Pox in New England, which led to an interview with the prince and princess of Wales, afterwards George II. and queen Caroline. His History of the Puritans is of considerable authority, and very honorable to the talents of the author. It called forth a Vindication of the Doctrine, Discipline, and Worship of the Church of England, as established in the Reign of Queen Elizabeth, from the injurious Reflections of Mr. Neal's First Volume, 8vo., from Dr. Madox, bishop of St. Asaph; to which he published a reply, which he calls A Review of the principal Facts objected to, &c. His remaining volumes were reviewed in a similar spirit by Dr. Zachary Grey, to which Neal never replied, but an answer appeared, in a new edition of Neal, so late as 1797, 5 vols. 8vo., by Dr. Toulmin. Mr. Neal died in 1743.

NEALING. See ANNEALING.

NEANDER (Michael), a protestant divine, born at Sofa, in Silesia, in 1513. He was educated at Sofa, and afterwards at Wittemburg, under Melancthon. He taught with much applause at Nordhausen in 1549; and afterwards, for forty years, in the academy of Ilfeldt and Pfortzheim. He published several useful works, and died at Pfortzheim, April 26th, 1595.

NEAP, *adj. & n. s.* Sax. *nepploþ.* Low; decrecent. Used only of the tide.

The mother of waters, the great deep, hath lost nothing of her ancient bounds. Her motion of ebbing and flowing, of high springs and dead *neaps*, are as constant as the changes of the moon.

Hakewill on Providence.

How doth the sea constantly observe its ebbs and flows, its springs and *neap*-tides, and still retain its saltness, so convenient for the maintenance of its inhabitants.

Ray.

The lowest as well as the highest water is at the time of the spring tides; the *neap* tides neither rise so high nor fall so low

Young.

NEAP, or **NEEP TIDES**, are those tides which happen when the moon is in the middle of the second and fourth quarters. They are low tides, in respect of their opposites the spring-tides. As the highest of the spring-tides is three days after the full or change, so the lowest of the *neap* is four days before the full or change. On which occasion the seamen say that it is deep *neap*.

NEAPED, *part. adj.* When a ship wants water, so that she cannot get out of the harbour, off the ground, or out of the dock, the seamen say she is *neaped*, or *beneaped*.

NEAPOLIS, in ancient geography, a city of Italy, in Campania, on the Sebethus, called also Parthenopa, originally a colony from Cumæ (Pliny, Strabo), accounted a Greek city. Its hot baths were not inferior to those of Baia, according to Strabo; two miles from it stands the monument of Virgil. It is now Naples. See NAPLES.

NEAPOLIS was also the name of twelve other ancient cities: viz. 1. A city of Egypt, in the Nomos Panopolitanus, between Thebæ to the south and Panopolis to the north, on the east side of the Nile; otherwise called Caene. 2. In Babylonia, near the Euphrates, on the south side. 3. In Caria, near the Meander.—Ptolemy. 4. In Cyrenaica, between Ptolemais and Arsinoe.—Id. 5. Neapolis or Cænopolis, on the east border of the same province.—Id. 6. In Ionia (Strabo); which belonged first to the Ephesians, but afterwards to the Samians, who exchanged Marathesium, a more distant city, for it. 7. In Macedonia Adjecta, twelve miles east of Philippi.—Antonine. 8. In Pisidia, on the borders of Galatia, between Amblada and Pappa.—Ptolemy. 9. In Samaria, the ancient ΣΙΧΕΜ, which see; called Neapolis upon its restoration by the Romans.—Pliny, Josephus. 10. In Sardinia, on the south-west side of the island, thirty miles north of Metalla; now called Neapoli. 11. In Regio Syrtica, called also Leptis. 12. In Zeugitana on the Mediterranean, east of Clypea, and south of the Promontorium Mercurii.

NEAR, *prep. adv. & adj.* Sax. *neþ*; Belg.

NEAR'LY, *adv.* } Goth. and Swed.

NEAR'NESS, *n. s.* } nar. Nigh; close

to; applied both to time and space: as an adverb, almost; within a litle, in which sense it is used for nearly: as an adjective it means close; closely related; advanced; direct; and (metaphor.) intimate; familiar; dear; parsimonious: nearly is, at no great distance; closely; pressingly; niggardly: nearness, closeness of place, time, or approach; alliance; parsimony.

This city is *near* to flee unto. *Gen. xix. 20.*

If one shall approach to any that is *near* of kin to him. *Lev. xviii. 6.*

Thou art *near* in their mouth, and far from their reins. *Jer. xii. 2.*

Unless they add somewhat else to define more certainly what ceremonies shall stand for best, in such sort that all churches in the world should know them to be the best, and so know them that there may not remain any question about this point; we are not a whit the *nearer* for that they have hitherto said.

Hobker.

God, by reason of *nearness*, forbid them to be like the Canaanites or Egyptians. *Id.*

I have heard thee say,
No grief did ever come so near thy heart,
As when thy lady and thy true love died.

Shakespeare.

Thou thought'st to help me, and such thanks I
give,

As one near death to those that wish him live. *Id.*
Every minute of his being thrusts

Against my nearest of life. *Id. Macbeth.*

Whether there be any secret passages of sympathy
between persons of near blood; as, parents, children,
brothers and sisters. There be many reports in history,
that, upon the death of persons of such nearness,
men have had an inward feeling of it. *Bacon.*

It shows in the king a nearness, but yet with a kind
of justness. So these little grains of gold and silver
helped not a little to make up the great heap.

Id. Henry VII.

Whose fame by every tongue is for thy minerals
hurled,

Near from the mid-day's point throughout the western
world. *Drayton.*

Delicate sculptures be helped with nearness, and
gross with distance; which was well seen in the controversy
between Phidias and Alcmenes about the statue
of Venus. *Wotton.*

Those blessed spirits that are in such a nearness
to God, may well be all fire and love, but you at
such a distance cannot find the effects of it.

Duppa.

Self-pleasing and humorous minds are so sensible
of every restraint, as they will go near to think
their girdles and garters to be bonds and shackles.

Bacon's Essays.

The entering near hand into the manner of performance
of that which is under deliberation hath overturned
the opinion of the possibility or impossibility.

Id. Holy War.

Accidents which, however dreadful at a distance,
at a nearer view lost much of their terror.

Fell.

To measure life, learn then betimes, and know
Toward solid good what leads the nearest way.

Milton.

Nearly it now concerns us, to be sure

Of our omnipotence. *Id. Paradise Lost.*

To the warlike steed thy studies bend,

Near Pisa's flood the rapid wheels to guide.

Dryden.

He served great Hector, and was ever near;

Not with his trumpet only, but his spear. *Id.*

Hannibal Caro's, in the Italian, is the nearest, the
most poetical, and the most sonorous of any translation
of the Æneid. Yet, though he takes the advantage
of blank verse, he commonly allows two lines
for one in Virgil, and does not always hit his
sense. *Id.*

This eagle shall go near, one time or other, to take
you for a hare. *L'Estrange.*

He that paid a bushel of wheat per acre, would
pay now about five-and-twenty pounds per annum;
which would be near about the yearly value of the
land. *Locke.*

The will, free from the determination of such
desires, is left to the pursuit of nearer satisfactions.

Id.

He could never judge that it was better to be
deceived than not, in a matter of so great and near
concernment. *Id.*

The Castilian would rather have died in slavery
than paid such a sum as he found would go near to
ruin him. *Addison.*

Many are the enemies of the priesthood: they are
diligent to observe whatever may nearly or remotely
blemish it. *Atterbury.*

The best rule is to be guided by the nearness or distance
at which the repetitions are placed in the original.
Pope.

It concerneth them nearly, to preserve that government
which they had trusted with their money.

Swift.

Whether they, nearer lived to the blest times,
When man's Redeemer bled for human crimes;
Whether the hermits of the desert fraught
With living practice, by example taught.

Harte.

Anacreon, Horace, played in Greece and Rome,
This bedlam part; and others nearer home.

Cowper.

Near—and nearer—nearer still,
As the earthquake saps the hill,
First with trembling hollow motion,
Like a scarce awakened ocean;
Then with stronger shock and louder,
Till the rocks are crushed to powder. *Byron.*

NEAT', *n. s.* } Sax. *neat*; Goth. and Scot.
NEAT'HERD, } *naut*; Swed. *nat*. An ox;
oxen: it is used both as a singular and plural
word: a neatherd is one who has the care of
oxen.

Who both by his calf and his lamb will be known,
May well kill a neat and a sheep of his own.

Tusser.

There neatherd with cur and his horn,
Be a fence to the meadow and corn. *Id.*

His droves of asses, camels, herds of neat,
And flocks of sheep, grew shortly twice as great.

Sandys.

The steer, the heifer, and the calf,
Are all called neat. *Shakspeare. Winter's Tale.*

Go and get me some repast.

—What say you to a neat's foot?

—Tis passing good; I prythee let me have it.

Shakspeare.

Smoke preserveth flesh; as we see in bacon, neat's
tongues, and martlemass beef.

Bacon's Natural History.

What care of neat or sheep is to had

I sing, Mæcanas. *May's Virgil.*

As great a drover, and as great

A critick too, in hog or neat. *Hudibras.*

The swains and tardy neatherds came, and last

Menalcas, wet with beating winter mast. *Dryden.*

Set it in rich mould, with neat's dung and lime.

Mortimer.

NEAT, *adj.* Fr. *net*; Ital. *netto*; Lat. *nitidus*.
Pure; clean; unmixed.

Tuns of sweet old wines, along the wall;

Neat and divine drink. *Chapman's Odyssey.*

When the best of Greece besides, mixe ever, at
our cheere,

My good old ardent wine, with small; and our inferior
mates

Drinke even that mixt wine measured too, thou
drinkst without those crutes

Our old wine, *neate.* *Chapman.*

NEAT, *adj.* } Fr. *net*; Teut. *netta*;

NEATLY, *adv.* } Goth. *nated*. Clean; chaste;

NEATNESS, *n. s.* } elegant, but without dignity:
of the adverb and noun-substantive corresponding.

Pelagius carped at the curious neatness of men's
apparel. *Hooker.*

I will never trust a man again for keeping his
sword clean; nor believe he can have every thing in
him, by wearing his apparel neatly. *Shakspeare.*

Herbs and other country messes,
Which the neat-handed Phillis dresses. *Milton.*

To love an altar built

Of twelve vast French romances neatly gilt. *Pope.*

If you were to see her, you would wonder what poor body it was, that was so surprisingly neat and clean. *Law.*

NEATH, a large, ancient, and populous town of South Wales, in Glamorganshire, seated on a river of the same name, over which it has a bridge, with a good harbour. The ruins of its ancient castle and monastery are still to be seen. The house belonging to the latter is kept in repair. The town is governed by a portreeve, aldermen, &c. It has markets on Wednesday and Saturday; and exports annually from 60,000 to 70,000 chaldrons of coals, to Somerset, Devon, Cornwall, &c. It has two extensive copper-works, and several iron works. A navigable canal, twelve miles long, has been lately cut to Breconshire; and it has a constant trade with London and Bristol. It is seated near the Bristol Channel, nine miles north-east of Swansea, and 200 west by north of London, it contributes with Swansea in returning one member to Parliament.

NEB, *n. s.* Saxon *nebbe*. Nose; beak; mouth. Only retained in the north.

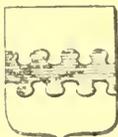
How she holds up the *neb*! the bill to him,
And arms her with the boldness of a wife.

Shakspeare.

Take a glass with a belly and a long *neb*. *Bacon.*

NEBUCHADNEZZAR, or **NEBUCHODONAZOR**, the second king of Babylonia, son of Nabopolassar, and styled the Great, was associated by his father in the empire, A. A. C. 607, and the following year he took Jehoiakim, king of Judah, prisoner, and proposed to carry him and his subjects in captivity into Babylon; but upon his submission, and promising to hold his kingdom under Nebuchadnezzar, he was permitted to remain at Jerusalem. In 603 Jehoiakim attempted to shake off the Babylonian yoke, but without success; and this revolt brought on the general captivity. Nebuchadnezzar also subdued the Ethiopians, Arabians, Idumeans, Philistines, Syrians, Persians, Medes, Assyrians, and almost all Asia. Being puffed up with pride, he caused a golden statue to be set up, and commanded all to worship it; which Daniel's companions refusing to do, they were cast into the fiery furnace. But, as he was admiring his own magnificence, by divine sentence he was driven from men, and is said to have eaten grass as oxen, i. e. he was seized with a disease called by the Greeks lycanthropy, which is a kind of madness that causes persons to run into the fields and street in the night, and sometimes to suppose themselves to have the head of oxen, &c. At the end of seven years his reason returned to him, and he was restored to his throne and glory. He died A. A. C. 562, in the forty-third year of his reign; in the fifth of which happened that eclipse of the sun mentioned by Ptolemy, which is the surest foundation of the chronology of his reign.

NEBULE, in heraldry, from Latin *nebula*, a cloud, one of the partition lines of a shield; when the outlines of an ordinary or partition line runs arched in and out, after the manner of a cloud, as in the annexed figure.



NEBUZAR-ADAN, captain of the guard to Nebuchadnezzar, and the commander of his army in the final siege and destruction of Jerusalem. See 2 Kings xxv. 8—21.

NECESSARY, *adj.*

NECESSARILY, *adv.*

NECESSARINESS, *n. s.*

NECESSITATE, *v. u.*

NECESSITATION, *n. s.*

NECESSITIED, *adj.*

NECESSITOUS,

NECESSITOUSNESS, *n. s.*

NECESSITUDE,

NECESSITY.

Fr. *necessaire*, *necessiter*; Italian, *necessario*; Span., and Port. *necessario*; Lat. *necessarius*; *necessitas*. Needful; indispensable; decisive; conclusive: unavoidable; fatal: the adjective and noun-substantives follow these senses: to necessitate is, to make necessary or unavoidable; not to leave free: necessity is, the state of being necessary; indispensableness; cogency; compulsion; also want; need; or a want, or thing needed: the other compounds explain themselves.

I would know by some special instance, what one article of Christian faith, or what duty required necessarily unto all men's salvation there is, which the very reading of the word of God is not apt to notify.

Hooker.

The necessities of man had at the first no other helps and supplies than domestical; such as that which the prophet implieth, saying, Can a mother forget her child?

Id.

Death, a necessary end,

Will come when it will come.

Shakspeare.

This ring was mine, and, when I gave it Helen,

I bad her, if her fortunes ever stood

Necessitated to help, that by this token

I would relieve her. *Id.* *All's Well that Ends Well.*

Urge the necessity and state of times.

Shakspeare.

These should be hours for necessities,

Not for delights; times to repair our nature

With comforting repose, and not for us

To waste these times.

Id. *Henry VIII.*

There never was a man of solid understanding, whose apprehensions are sober, and by a pensive inspection advised, but that he hath found by an irresistible necessity, one true God and everlasting being.

Raleigh's History.

Never shall

Our heads get out; if once within we be,

But stay compelled by strong necessity.

Chapman.

There is nothing more troublesome in human society than the disappointment of trust, and failing of friends: for, besides the disorder that it works in our own affairs, it commonly is attended with a necessary deficiency of our performances to others. *Bp. Hall.*

The supernatural necessities are, the preventing, assisting, and renewing grace of God, which we suppose God ready to annex to the revelation of his will in the hearts of all that with obedient humble spirits receive and sincerely embrace it.

Hammond.

We are to ask of God such necessities of life as are needful to us, while we live here.

Duty of Man.

Hast thou proudly ascribed the good thou hast done to thy own strength, or imputed thy sins and follies to the necessitating and inevitable decrees of God?

Duppa's Rules for Devotion.

This necessity, grounded upon the necessitation of a man's will without his will, is so far from lessening those difficulties which flow from the fatal destiny of the Stoicks that it increaseth them.

Bramhall against Hob.

The *necessity* of grace does not suppose that our nature is originally corrupted; for beyond Adam's mere nature something else was *necessary*, and so it is to us.

Jer. Taylor.

Notwithstanding all these provocations of his wrath, and abusings of his patience which thus *necessitated* God to execute his vengeance; yet, even during the execution thereof, he did retain thoughts of favour, and intentions of doing good, even toward this ungrateful people.

Barrow.

Every thing is endowed with such a natural principle, whereby it is *necessarily* inclined to promote its own preservation and well being.

Wilkins.

Though there be no natural *necessity* that such things must be so, and that they cannot possibly be otherwise, without implying a contradiction; yet may they be so certain as not to admit of any reasonable doubt concerning them.

Id.

The marquis of Newcastle, being pressed on both sides, was *necessitated* to draw all his army into York.

Clarendon.

They who were envied found no satisfaction in what they were envied for, being poor and *necessitous*.

Id.

The cause of all the distractions in his court or army proceeded from the extreme poverty and *necessity* his majesty was in.

Id.

Necessity and chance

Approach not me: and what I will is fate.

Milton.

Man seduced,

And flattered out of all, believing lies

Against his Maker: no decree of mine

Concurring to *necessitate* his fall.

Id.

Our voluntary service he requires,

Not our *necessitated*.

Id. Paradise Lost.

The mutual *necessitudes* of human nature *necessitate* maintain mutual offices between them.

Hale's Origin of Mankind.

Neither the Divine Providence, or his determinations, persuasions, or inflexions of the understanding or will of rational creatures, doth deceive the understanding, or pervert the will, or *necessitate* or incline either to any moral evil.

Hale.

The church is not of such a nature as would *necessarily*, once begun, preserve itself for ever.

Pearson.

Seeing it is impossible we should have the same sanctity which is in God, it will be *necessary* to declare what is this holiness which maketh men be accounted holy ones, and called saints.

Id.

A certain kind of temper is *necessary* to the pleasure and quiet of our minds, consequently to our happiness; and that is holiness and goodness.

Tillotson.

In legal seizures, and righting himself on those who, though not perfectly insolvent, are yet very *necessitous*, a good man will not be hasty in going to extremities.

Kettlewell.

Good-nature, or beneficence and candour, is the product of right reason; which of *necessity* will give allowance to the failings of others.

Dryden.

All greatness is in virtue understood;

'Tis only *necessary* to be good.

Id. Aurengzebe.

The Eternal, when he did the world create

And other agents did *necessitate*;

So what he ordered they by nature do;

Thus light things mount, and heavy downward go,

Man only boasts an arbitrary state.

Dryden.

We are first to consult our own *necessities*, but then the *necessities* of our neighbours have a christian right to a part of what we have to spare.

L'Strange.

The right a son has, to be maintained and provided with the *necessities* and conveniences of life out of his father's stock, gives him a right to succeed to his father's property for his own good.

Locke.

The denomination of money concerns trade, and the alteration of that *necessarily* brings disturbance to it.

Id.

They resolve us not, what they understand by the commandment of the word; whether a literal and formal commandment, or a commandment inferred by any *necessary* inference.

White.

Universal peace is demonstration of universal plenty, for where there is want and *necessitousness* there will be quarrelling.

Burnet.

We see the *necessity* of an augmentation, to bring the enemy to reason.

Addison.

They subjected God to the fatal chain of causes, whereas they should have resolved the *necessity* of all inferior events into the free determination of God himself; who executes *necessarily* that which he first proposed freely.

South.

The politician never thought that he might fall dangerously sick, and that sickness *necessitate* his removal from the court.

Id.

The perfections of any person may create our veneration; his power our fear; and his authority, arising thence, a servile and *necessitated* obedience, but love can be produced only by kindness.

Rogers.

There are multitudes of *necessitous* heirs and penurious parents, persons in pinching circumstances, with numerous families of children.

Arbutnot.

This declination of atoms in their descent was itself either *necessary* or voluntary.

Bentley.

The Dutch would go on to challenge the military government and the revenues, and reckon them among what shall be thought *necessary* for their barrier.

Swift.

It is to be admired how any deceiver can be so weak to foretel things near at hand, when a very few months must of *necessity* discover the imposture.

Id.

Great part of the world are free from the *necessities* of labour and employment, and have their time and fortunes in their own disposal.

Law.

People have a custom of excusing the enormities of their conduct by talking of their passions, and as if they were under the control of a blind *necessity*, and sinned because they could not help it.

Cumberland.

In England we want not a fundamental revolution, but we certainly want a reform both in the civil and ecclesiastical part of our constitution: men's minds, however, I think, are not yet generally prepared for admitting its *necessity*.

Bp. Watson.

The office which has placed me in relation with that body is one of which, as you justly observe, the functions are *necessarily* of a somewhat invidious character.

Canning.

NECESSITY, in law, as it implies a defect of will, excuses from the guilt of crimes. See CRIME. Compulsion and inevitable necessity are a constraint upon the will, whereby a man is urged to do that which his judgment disapproves, and which it is to be presumed his will (if left to itself) would reject. As punishments are therefore only inflicted for the abuse of that free will which God has given to man, it is highly just, that a man should be excused for those acts which are done through unavoidable compulsion. 1. Of this nature, in the first place, is the obligation of civil subjection, whereby the inferior is constrained by the superior to act contrary to

what his own reason and inclination would suggest; as when a legislator establishes iniquity by law, and commands the subject to do an act contrary to religion or sound morality. How far this excuse will be admitted in foro conscientiæ, or whether the inferior in this case is not bound to obey the divine rather than the human law, it is not our business to decide; though, among casuists, the question will hardly bear a doubt. But obedience to the laws in being is undoubtedly a sufficient extenuation of civil guilt before the municipal tribunal. The sheriff who burnt Latimer and Ridley, in the bigotted days of queen Mary I., was not liable to punishment from Elizabeth for executing so horrid an office; being justified by the command of that magistracy which endeavoured to restore superstition, under the holy auspices of its merciless sister, Persecution. As to persons in private relations, the principal case where constraint of a superior is allowed as an excuse for criminal misconduct is with regard to the matrimonial subjection of the wife to her husband; for neither a son nor a servant are excused for the commission of any crime, whether capital or otherwise, by the command or coercion of the parent or master; though in some cases the command or authority of the husband, either expressed or implied, will privilege the wife from punishment, even for capital offences. And, therefore, if a woman commit theft, burglary, or other civil offences, by the coercion of her husband, or even in his company, which the law construes a coercion, she is not guilty of any crime, being considered as acting by compulsion; which doctrine is at least 1000 years old in this kingdom, being to be found among the laws of Ina the West Saxon. And, among the northern nations on the continent, this privilege extended to any woman transgressing in concert with a man, and to any servant that committed a joint offence with a freeman; the male or freeman only was punished, the female or slave dismissed. But (besides that, in the English law, which is a stranger to slavery, no impunity is given to servants, who are as free agents as their masters), even with regard to wives, this rule admits of an exception in crimes that are mala in se, and prohibited by the law of nature, as murder and the like; not only because they are of a deeper dye, but also, since in a state of nature no one is in subjection to another, it would be unreasonable to screen an offender from the punishment due to natural crimes, by the refinements and subordinations of civil society. In treason also (the highest crime which a member of society can, as such, be guilty of), no plea in coverture shall excuse the wife, no presumption of the husband's coercion shall extenuate her guilt; as well because of the odiousness and dangerous consequences of the crime itself, as because the husband, having broken through the most sacred tie of social community by rebellion against the state, has no right to that obedience from a wife which he himself as a subject has forgotten to pay. In inferior misdemeanors, also, a wife may be indicted and set in the pillory with her husband, for keeping a brothel: for this is an offence touching the domestic economy or government of the

house, in which the wife has a principal share; and is also such an offence as the law presumes to be generally conducted by the intrigues of the female sex. And in all cases where the wife offends alone, without the company or coercion of her husband, she is responsible for her offence as much as any femme sole. 2. Another species of compulsion or necessity is what the law calls *duress per minas*; or threats and menaces, which induce a fear of death or other bodily harm, and which take away for that reason the guilt of many crimes and misdemeanors, at least before the human tribunal. But then that fear which compels a man to do an unwarrantable action ought to be just and well grounded; such, 'qui cadere possit in virum constantem, non timidum et meticulosum,' as Bracton expresses it, in the words of the civil law. Therefore, in time of war or rebellion, a man may be justified in doing many treasonable acts by compulsion of the enemy or rebels, which would admit of no excuse in the time of peace. This, however, seems only, or principally, to hold as to positive crimes, so created by the laws of society, and which therefore society may excuse; but not as to natural offences, so declared by the law of God, wherein human magistrates are only the executors of divine punishment. And therefore, though a man be violently assaulted, and hath no other possible means of escaping death but by killing an innocent person, this fear and force shall not acquit him of murder; for he ought rather to die himself than escape by the murder of an innocent. But in such a case he is permitted to kill the assailant; for there the law of nature, and self-defence, its primary canon, have made him his own protector. 3. There is a third species of necessity, which may be distinguished from the actual compulsion of external force or fear, being the result of reason and reflection, which act upon and constrain a man's will, and oblige him to do an action which without such obligation would be criminal; and that is, when a man has a choice of two evils set before him, and, being under a necessity of choosing one, he chooses the least pernicious of the two. Here the will cannot be said freely to exert itself, being rather passive than active; or, if active, it is rather in rejecting the greater evil than in choosing the less. Of this sort is that necessity where a man, by the commandment of the law, is bound to arrest another for any capital offence, or to disperse a riot, and resistance is made to his authority; it is here justifiable, and even necessary, to beat, to wound, or perhaps to kill, the offenders, rather than permit the murderer to escape, or the riot to continue; for the preservation of the peace of the kingdom, and the apprehending of notorious malefactors, are of the utmost consequence to the public, and therefore excuse the felony, which the killing would otherwise amount to. 4. There is yet another case of necessity, which has occasioned great speculation among the writers upon general law, viz. whether a man in extreme want of food or clothing may justify stealing either, to relieve his present necessities. And this both Grotius and Puffendorf, with many other foreign jurists, hold in the affirmative; maintaining, by many ingenious, humane

and plausible reasons, that in such cases the community of goods, by a kind of tacit confession of society, is revived. And even some English lawyers have held the same; though it seems to be an unwarranted doctrine, borrowed from the notions of some civilians; at least the law of England admits no such excuse at present. And this its doctrine is agreeable, not only to the sentiments of many of the wise ancients, particularly Cicero, who holds that 'suum cuique incommodum ferendum est, potius, quam de alterius commodis detrahendum;' but also to the Jewish law, as certified by Solomon himself:—'If a thief steal to satisfy his soul when he is hungry, he shall restore seven-fold, and shall give all the substance of his house;' which was the ordinary punishment for theft in that kingdom. And this is founded upon the highest reason; for men's properties would be under a strange insecurity, if liable to be invaded according to the wants of others; of which wants no man can possibly be an adequate judge, but the party himself who pleads them. In England especially there would be a peculiar impropriety in admitting so odious an excuse; for by the laws such sufficient provision is made for the poor by the power of the civil magistrate, that it is impossible that the most needy stranger should ever be reduced to the necessity of thieving to support nature. The case of a stranger is, by the way, the strongest instance put by baron Puffendorf; and whereon he builds his principal arguments; which, however they may hold upon the continent, where the parsimonious industry of the natives orders every one to work or starve, yet must lose all their weight and efficacy in England, where charity is reduced to a system, and interwoven in our very constitution. Therefore the English laws ought by no means to be taxed with being unmerciful, for denying this privilege to the necessitous; especially when we consider that the king, on the representation of his ministers of justice, hath a power to soften the law, and to extend mercy in cases of peculiar hardship; an advantage which is wanting in many states, particularly those which are democratical; and these have in its stead introduced and adopted, in the body of the law itself, a multitude of circumstances tending to alleviate its rigor. But the founders of our constitution thought it better to vest in the crown the power of pardoning particular objects of compassion, than to countenance and establish theft by one general undistinguishing law. See PARDON.

NECESSITY, in metaphysics, implies whatever is done by a cause or power that is irresistible; in which sense it is opposed to liberty. Man is a necessary agent, if all his actions be so determined by the causes preceding each that not one past action could possibly not have come to pass, or have been otherwise than it hath been; nor one future action can possibly not come to pass, or be otherwise than it shall be. But he is a free agent, if he be able at any time, under the circumstances and causes he then is, to do different things; or, in other words, if he be not unavoidably determined in every point of time, by the circumstances he is in, and the causes he is under, to do that one thing he does, and not possi-

bly to do any other thing. Whether man is a necessary or a free agent is a question which has been debated with much ingenuity by writers of the first eminence, from Hobbes and Clarke to Priestley and Gregory. See METAPHYSICS and PREDESTINATION.

Upon this most difficult, perhaps, of all subjects that engage a philosophical attention, it is at least instructive, by way of warning, to observe how extreme opinions meet. Jonathan Edwards, a distinguished and rather ultra-Calvinist; and Dr. Priestley, the champion of the libertine faith of Socinus (meeting, therefore, from the opposite poles of religious opinion) were philosophical necessitarians; and held that what has been called the liberty of indifference, with regard to the performance or non-performance of an action, is not only unnecessary to virtue, but utterly inconsistent with it. 'Our habits and inclinations, whether vicious or virtuous, are inconsistent with the Arminian notions of liberty and moral necessity,' says the former. 'The sense of self-reproach and shame,' rejoins the latter, 'is excited by our finding that we have a disposition of mind leading to vice, over which motives to virtue have had, in particular instances, no influence.' Yet Dr. Priestley stoutly denied the doctrines both of hereditary and total depravity. With him, as we have seen (article METAPHYSICS), the proper foundation, or rather the ultimate object of virtue is general utility; since it consists of such conduct as tends to make intelligent creatures the most truly happy in the whole of their existence; though, with respect to the agent, no action is denominated virtuous that is not voluntary, or that does not proceed from some good motive. [But what is a voluntary action, according to this system?] This reasoning our author here applies to the Deity, who, he says, 'pursues the happiness of his creatures by such means as are best calculated to secure that end, and which are sanctified by it;' 'and,' he adds, 'that the Deity *may adopt some things*, which he would *not* have chosen on their own account, but for the sake of other things with which they were necessarily connected.' According to this, then, there is a necessity that controls Him!

On the practical influence of the different speculative opinions that have been maintained on this subject, Dr. Reid has the following excellent remarks:—'In the present state we see some who zealously maintain the doctrine of necessity; others who as zealously maintain that of liberty. One would be apt to think, that a practical belief of these contrary systems should produce very different conduct in them that hold them; yet we see no such difference in the affairs of common life. The fatalist deliberates, and resolves, and slights his faith. He lays down a plan of conduct, and prosecutes it with vigor and industry. He exhorts and commands, and holds those to be answerable for their conduct to whom he hath committed any charge. He blames those that are false or unfaithful to him, as other men do. He perceives dignity and worth in some characters and actions, and in others demerit and turpitude. He resents injuries, and is grateful for good offices. If any

man should plead the doctrine of necessity to exculpate murder, theft, or robbery, or even wilful negligence in the discharge of his duty, his judge, though a fatalist, if he had common sense, would laugh at such a plea, and would not allow it even to alleviate the crime. In all such cases, he sees that it would be absurd not to act and judge as those ought to do who believe themselves and other men to be free agents; just as the sceptic, to avoid absurdity, must, when he goes into the world, act and judge like other men who are not sceptics. If the fatalist be as little influenced by the opinion of necessity in his moral and religious concerns, and in his expectations concerning another world, as he is in the common affairs of life, his speculative opinions will probably do him but little hurt. But if he trusts so far to the doctrine of necessity as to indulge sloth and inactivity in his duty, and hopes to exculpate himself to his Maker by that doctrine, let him consider whether he sustains this excuse from his servants and dependents, when they are negligent or unfaithful in what is committed to their charge.'

As we freely examined the metaphysical claims of Dr. Reid in another part of this work, let us insert here another useful suggestion from his writings on this topic. With a view of showing that it is not impossible that the future free actions of men may be certainly foreknown, and how difficult the application of all our reasoning upon this subject is to the divine actions and character; he begins with observing, 'That as *man* does not possess this kind of knowledge, we find it difficult to conceive how it can belong to any other being. The prescience of the Deity must be different, not only in degree, but in kind, from any knowledge we can attain of futurity. But, though we can have no conception how the future free actions of men may be known by the Deity, this is not a sufficient reason for concluding that they cannot be known. Of the knowledge and operations of the Deity in other respects we must be content to confess our ignorance. Can we conceive how we ourselves have certain knowledge by those faculties with which God has endowed us? The analogy that subsists between the prescience of future contingents and the memory of past contingents deserves attention. The last we possess in some degree, and therefore do not hesitate to acknowledge that it may be perfect in the Deity; but the first we have in no degree, and therefore we are apt to think it impossible. In both, the object of knowledge is neither what presently exists, nor has any necessary connexion with what presently exists. Every argument brought to prove the impossibility of prescience, proves with equal force the impossibility of memory. If it be true, that nothing can be known to arise from what does exist, not what necessarily arises from it, it must be equally true, that nothing can be known to have gone before what does exist, but what must necessarily have gone before it. If it be true that nothing future can be known, unless its necessary cause exist at present, it must be equally true that nothing past can be known, unless something consequent, with which it is necessarily connected, exist at present. If the

fatalist should say, that past events are indeed necessarily connected with the present, he will not surely venture to say that it is by tracing this necessary connexion that we remember the past. Why then should we think prescience impossible in the Almighty, when he has given us a faculty which bears a strong analogy to it, and which is no less unaccountable to the human understanding than prescience is. It is more reasonable, as well as more agreeable to the sacred writings, to conclude with a pious father of the church:—'Quo circa nullo modo cogimur, aut retentâ præscientiâ Dei tollere voluntatis arbitrium, aut retento voluntatis arbitrio, Deum, quod nefas est, negare præscium futurorum; sed utrumque amplectimur, utrumque fideliter et veraciter confitemur; illud ut bene credamus; hoc ut bene vivamus.'

NECESSITY, in mythology, a power supposed to be superior to all other powers, and equally irresistible by gods and by men. Herodotus, Hesiod, and Homer, teach that the gods were generated by Necessity, of Night and Chaos. This power, though always represented as blind and unintelligent, was, however, worshipped as a goddess, bearing in her hand large iron nails, wedges, anchors, and melted lead, as emblems of the inflexible severity of her nature. 'In the city of Corinth she had a temple, in which the goddess Violence likewise resided, and into which no person was ever permitted to enter but the priest who officiated in sacris. See PARCÆ.

NECHO II. reigned A. A. C. 616, and is celebrated in history for attempting, though in vain, to cut a canal from the Nile to the Arabian Gulf. See EGYPT. He carried his arms as far as the Euphrates, and conquered the city of Carchemish. This prince is known by the name of Necho, in profane history, as well as in Scripture. He raised great land armies, and fitted out vast fleets, as well upon the Mediterranean as upon the Red Sea; he gave battle to the Syrians near the city of Migdol; routed them, and made himself master of the city of Cadytis. The learned, however, are not agreed about Cadytis. Some will have it to be Cades in Arabia Petræa; others Jerusalem; and others say it is the city of Cedes, or Kedes, in Galilee, in the tribe of Naphtali. The Scriptures acquaint us with the whole expedition of Necho in all its particulars. It happened A. M. 3394. See 2 Kings xxiii. 29, &c., and 2 Chron. xxxv. 20, 21, &c. Jeremiah informs us (chap. xli. 2) that Carchemish was taken from Necho by Nebuchadnezzar; and Josephus adds that this last monarch reduced the whole country between Egypt and the Euphrates.

NECK, *n. s.* } Sax. *hneca*; Goth. *necka*;
 NECK'BEEF, } Belg. *neck*; Swed. and Dan.
 NECK'CLOTH, } *necke*; It. *necka*. That part
 NECK'ATEE, } which unites the head to the
 NECK'ERCHIEF, } body; hence any thing of
 NECK'LACE. } its long narrow shape; and
 'in the neck,' immediately on, or after another thing: neckbeef is the beef of this part of oxen: neckcloth, neckatee, and neckerchief, are names for a cloth or gorget for the neck: necklace, an ornamental string of beads worn on this part.

With wilde thonder dint and fry leven,
 Note thy welked *necke* be to broke. *Chaucer*

The second way to aggregate sin is by addition of sin to sin, and that is done sundry ways ; first by committing one sin on the *neck* of another ; as David sinned, when he added murder to adultery.

Perkins.

He'll beat Aufidius' head below his knee,
And tread upon his *neck*.

Shakspeare. Coriolanus.

He deposed the king,
And, on the *neck* of that, tasked the whole state.

Shakspeare.

The access of the town was only by a *neck* of land, between the sea on the one part, and the harbour water on the other.

Bacon.

Instantly on the *neck* of this came news, that Ferdinand and Isabella had concluded a peace. *Id.*

The length of the face twice exceedeth that of the *neck*.

Browne.

She clapped her leathern wing against your towers,
And thrust out her long *neck*, even to your doors.

Dryden.

Thou walkest as on a narrow mountain's *neck*,
A dreadful height, with scanty room to tread. *Id.*

I look on the tucker to be the ornament and defence of the female *neck*.

Addison.

Will she with huswife's hand provide thy meat,
And every Sunday morn thy *neckcloth* plait? *Gay.*

Ladies, as well then as now, wore estates in their ears. Both men and women wore torques, chains, or *necklaces* of silver and gold set with precious stones.

Arbutnot on Coins.

Or lose her heart, or *necklace*, at a ball. *Pope.*
They'll sell (as cheap as *neckbeef*) for counters.

Swift.

Her bony and unkerchiefed *neck* defies,

The rude inclemency of wint'ry skies. *Couper.*

NECK. See ANATOMY. The parts which form the neck are divided into external and internal. The external parts are the common integuments ; several various muscles ; eight pairs of cervical nerves ; the great intercostal nerve ; the two carotid arteries ; the two external jugular veins, and the two internal ; and the glands of the neck. The internal parts are the fauces, pharynx, œsophagus, larynx, and trachea. The bones are the seven cervical vertebrae.

NECKAR, a considerable river of West Germany, rising in the Black Forest, not far from the sources of the Danube and traversing Wirtemberg and the north part of Baden it falls into the Rhine at Mannheim. Heidelberg, Heilbron, Ludwigsburgh, Tubingen, and Rottweil, stand on its banks ; and it is navigable for large lighters to Heilbron, and for boats to Cronstadt ; but here the stream is very shallow.

NECKAR, a circle of the grand duchy of Baden, comprehends that part of the lower palatinate which lies to the east of the Rhine. It is divided into the jurisdictions of Mannheim and Heidelberg, and into nine bailiwics ; the capital is Mannheim. Population 100,000. This is also the name of an extensive circle or district of the kingdom of Wirtemberg. It comprehends the west part of the kingdom. See WIRTEMBERG.

NECKAR, LOWER, one of the twelve departments of the kingdom of Wirtemberg, to the north of Rothenberg, and adjacent to Baden. Its area is 540 square miles, divided into the bailiwics of Backnang, Brackenheim, Heilbron, Neckarsulm, and Weinsberg. The capital is Heilbron. This department is distinct from the above

circle of the Neckar, and a much larger division. Population 114,000.

NECKAR, MIDDLE, another of the twelve departments of the kingdom of Wirtemberg, on the Neckar, and divided into two parts by the north-west corner of the principality of Hohenzollern. It consists of the bailiwics of Herrenberg, Horb, Rottenburg, Sulz, and Tubingen. The last is the chief town.

NECKAR, UPPER, one of the twelve departments of the kingdom of Wirtemberg, nearly surrounded by Baden and Hohenzollern. Its area is 580 square miles ; divided into the bailiwics of Balingen, Oberndorf, Rottweil, Spaichingen, and Tuttlingen. The chief town is Rottweil. Population 103,000.

NECKER (James), a celebrated statesman and financier, who acted a very distinguished part during the early part of the French revolution. He was born at Geneva in the year 1732, where his father was professor of the civil law in the college. He received a good education ; and when in his fifteenth year was sent to Paris, where he was employed, first in the banking-house of Vernet, and then in that of Thelluson. His reputation for financial knowledge caused him, in 1776, when the French finances were in a disordered state, to be appointed director, and soon after comptroller-general of that department of state. Economy and regularity were the leading points of this gentleman's financial government. He suppressed many useless offices, established provincial assemblies, and restored public credit, though his enemies asserted that his reforms, or rather pretended reforms, were made at the expense of improvident loans, which left a great additional burden on the state. Whether his measures were really wise and solid, or merely specious, may perhaps be matter of dispute ; but it cannot be denied that his intentions were pure, and his conduct disinterested. He refused all emolument for his services, and advanced a large sum to government from his private property, which he never drew from the public funds. His administration was generally popular ; but, in proportion to the regard and attachment of the people, his enemies at court increased ; and, after having filled the office of minister of finance for five years, he resigned. Previously to this he had published his *Compte Rendu*, which was a statement of what he had done in the financial department, and what were his views of this important branch of public policy. This was followed by a work entitled *De l'Administration des Finances*, which treated the subject more at large, and which was read and circulated with great avidity, and it had, unquestionably, a powerful influence in exciting the popular attention to matters of government. When M. Calonne was appointed to the office which Necker resigned, he made an attack, before the assembly of notables, upon the veracity of Necker's statements. The latter drew up a reply, which he transmitted to the king, who intimated, that, if he would forbear making it public, he should shortly be restored to his place. This he refused, and appealed to the nation by publishing his defence ; which was so displeasing to the court that he was exiled to

his country seat at St. Ouen, at the distance of 120 miles from the capital. During his retreat from the busy world he wrote his work, entitled *De l'Importance des Opinions Religieuses*, in which he speaks of religion like one who was fully convinced of its importance both to individuals and society. When the boasted exertions of Calonne had only augmented the deficiencies of the revenue, and the incapacity of another minister, Brienne, had become notorious, nothing was left to the court but to recal Necker, whose dismissal and banishment had rendered him more popular, and whose virtues had confirmed the confidence which his talents had inspired. It was in August 1788 that this gentleman was reinstated in his former post, to the apparent satisfaction of the court, as well as to the real joy of the people. At this time the nation groaned under a debt of more than 200,000,000 sterling. The acclamations which welcomed M. Necker to the capital could not banish from his mind the difficulties with which he had to struggle. He was aware that De Calonne and the archbishop of Sens had both sunk under the public distress, and the impracticability of raising the necessary supplies; and he well knew that the evil was not diminished, and, unless some expedient could be hit on to re-establish public credit, he foresaw his own fate must be similar to that of his predecessors. His first intentions were to recal the banished members of the parliament of Paris, and to restore that body to its functions; to replenish the treasury, which he found almost empty; and to relieve the scarcity of corn under which the kingdom, and the capital in particular, then labored. His next plan was the convocation of the states-general, which had been already promised by the king, and which, in fact, proved the immediate forerunner of the revolution. Necker was particularly blamed by his adversaries, who were watching for an opportunity of reproaching his conduct, for having consented that the number of members of the *Tièrs Etât* should be equal to that of the nobles and clergy united. It was soon foreseen, by those who considered with attention the situation of the two parties, that the nobility and clergy would, to preserve their influence, urge their claim to vote by orders, while the representatives of the great mass of the people would be equally strenuous, that every question should be decided by a plurality of voices. At the opening of the states Necker delivered an elaborate speech, in which it was his misfortune to be desirous of pleasing both parties, and he consequently obtained the permanent confidence of neither; the acclamations of the multitude still attended him, but several of the deputies of the *Tièrs Etât*, as the representatives of the people were denominated, regarded already with suspicion the minister who represented the meeting of the states-general merely as the effect of royal grace, instead of a constitutional right. In the course of events, the king was persuaded to resist the unceasing claims of the popular party, and he determined upon the assembling of troops round the cities of Paris and Versailles; this was the signal for the dismissal of Necker, who had raised his voice

in the most resolute tone against these measures. On the 11th of July, 1789, a sudden order was brought him, while sitting at table, that he should quit the kingdom within twenty-four hours. The manner in which he submitted to this decree fully acquits him of any wish to raise a commotion on his own account. Pretending a sudden indisposition he retired from company after dinner, took a post-chaise, and with his wife drove first to his country seat, and thence to Brussels with all possible expedition. As soon as his dismissal was known the whole city was in a flame. The destruction of that fortress of despotism, the *bastille*, soon followed, and such symptoms of popular fury appeared that the king was glad to send an express urging his return, with even greater celerity than he had caused his banishment. This overtook him at Basil, where he had been first apprised of the revolutionary events at Paris. He determined upon compliance with the invitation, and his return was a scene of triumph, similar, it was said, to that of Cicero from his banishment. On his approach to the capital he was hailed by the enthusiastic shouts of the people, and his entrance into Paris was regarded as a day of public rejoicing. An immense concourse of people pressed to meet him; a numerous guard conducted him with military honors through the city; the air resounded with acclamations. The plaudits of the multitude are never of very long duration, and the popularity of Necker had reached its summit, and it was doomed now to decline. As minister of finance he was obliged to propose expedients which of necessity were galling to the people, and his sentiments, with respect to the principles of government, were far behind those which now began to be avowed by the popular leaders, and he soon became, in the eyes of the revolutionists, an aristocrat, and, as violence predominated, his personal safety was endangered. Mortified, and perhaps alarmed, at the loss of his influence, and at the symptoms of discontent which began to manifest themselves strongly against his measures, he desired to resign, offering to leave, as pledges for his integrity, the money which he had advanced to government, viz., about 80,000 sterling, and his house and furniture. His resignation was accepted with much sang froid, and he left Paris with the poignant reflections of a man, certainly unequal to the duties which he had undertaken, and who had seen that popularity fade away which had supported him in his former trials. He now recalled the native energies of his mind, and had recourse to his favorite occupation of writing, and several works of different kinds were the product of his solitary hours. His principal pieces are entitled '*Sur l'Administration de M. Necker, par lui même; Réflexions, &c.*', which were intended to benefit the king during his captivity and trial: *De Pouvoir Exécutif*, being an essay that contained his own ideas on the executive part of government: *Dernières Vuës de Politiques, et de Finance*, of which the chief object was to discuss what was the best form of government France was capable of receiving. Besides these, he published a *Course of Religious Morality*, and a novel, writ-

ten at the suggestion of his daughter, entitled *The Fatal Consequences of a single Fault*. He died at Copet, near Geneva, 19th of April, 1804.

NECKHAM (Alexander), an eminent English writer in the twelfth and thirteenth centuries, born at St. Alban's in Hertfordshire. About 1180, he taught philosophy with reputation at Paris. He was a good poet and a man of science for his age. In 1215 he was made abbot of Exeter, and died in 1227. He wrote several works, which were never published; but they are to be found in MS. in the libraries of England and other countries.

NECKLACE, an ornamented string of gold beads, or precious stones, worn round the neck. The Egyptians were early habituated to the use of the necklace, as is proved from the greater number of their ancient statues, even those of men: sometimes these necklaces are found encrusted in silver upon statues of bronze. The Greek and Roman ladies loved to appear thus ornamented, particularly in feasts and dances. The Spaniards wore collars of iron. The Roman generals were wont to distribute necklaces solemnly amongst such soldiers as were distinguished by their valor and good conduct, and who were hence called *milites torquati*. These torques were frequently made of gold or of silver. The Gauls wore collars or necklaces of precious metal in their armies. Manlius received his well-known surname, *Torquatus*, from having despoiled a Gaul of one of these ornaments whom he had killed in single combat.

NECOPHORON, in botany, a name used by Pliny and other authors for the *smilax aspera*, or rough bind-weed.

NECROLIUM, a word used by some of the alchemical writers to express a remedy almost always capable of averting death, and continuing life to its utmost period.

NECROLOGY, *necrologium* from Gr. *νεκρος*, dead, and *λογος*, enumeration, a book anciently kept in churches and monasteries, wherein were registered the benefactors of the same, the time of their deaths, and the days of their commemoration; as also the deaths of the priors, abbots, religious canons, &c. This was otherwise called *calendar and obituary*.

NECROMANCER, *n. s.* } Fr. *necromance* ;
NECROMANCY. } Gr. *νεκρος*, dead,
 and *μαντις*, a soothsayer. One who pretends to converse with the dead; a conjuror: necromancy is his pretended art.

This palace standeth in the air,

By *necromancy* placed there,

That it no tempests needs to fear. *Drayton*.

He did it partly by *necromancy*, wherein he was much skilled. *Abbot's Description of the World*.

Do ye think this doctor will begin first with the infallibility of their great master; and persuade him that a *necromancer*, a heretic, an atheist, cannot err in Peter's chair? *Bp. Hall*.

The resurrection of Samuel is nothing but delusion in the practice of *necromancy* and popular conception of ghosts. *Browne*.

I am employed like the general who was forced to kill his enemies twice over, whom a *necromancer* had raised to life. *Swift's Miscellanies*.

NECROMANCY appears to have had its origin at a very early period in Egypt, and to have been thence propagated in every nation with the

manners of which history has made us acquainted. The conquests of Sesostrius might introduce it into India; the Israelites would naturally borrow it from the people among whom they sojourned 400 years; and it would easily find its way into Phœnicia, from the vicinity of that country to the land of its nativity. From the Egyptians and Phœnicians it was adopted, with the other rites of paganism, by the Greeks; and it was imported into Rome with Grecian literature and manners. It spread itself through all the modern nations of Europe, and took such deep root as to be long retained, even after those nations were converted to the Christian faith. Of its early antiquity we have complete evidence in the writings of Moses (*Deut. xviii. 11, 12*), where it is severely condemned as an abomination to the Lord. Profane authors not only affirm Egypt to have been the birth-place of necromancy, but in some degree account for the origin of so impious a delusion. From *Diodorus Siculus* we learn that the Grecian fables of Charon (the ferryman of hell), of Styx, Cocytus, the Elysian fields, Tartarus, the judgment of Minos and Rhadamanthus, &c., with the whole scenery of the infernal regions, were imported from Egypt into Greece. The ancient Egyptians, and indeed all the people of the east, made use of caves for burying places, which were well suited to the solemn sadness of the surviving friends, and proper receptacles for those who were never more to behold the light. In Egypt many of those subterranean catacombs, dug out of the natural rock, still remain; and near to the pyramids in particular there are some apartments, which though they extend in length 4400 feet, and are about thirty feet in depth, appear to have been, if not entirely dug, at least reduced to form, by the chisel or pick-axe. From the practice of burying in such caverns sprung the opinion that the infernal mansions were situated somewhere near the centre of the earth, which by the Egyptians was believed to be not very distant from its surface. In these dreary mansions it was easy for the priests of Egypt to fabricate Erebus, Tartarus, the Elysian fields, and all those scenes which were displayed before the initiated (see *MYSTERIES*), and by them described to the people. That the Israelites, notwithstanding the divine prohibition, continued to practise the rites of necromancy, is apparent from Saul's transaction with the witch of Endor. From the same transaction it is likewise apparent that the witches of Israel, and in all probability the necromancers of Egypt, pretended to raise the ghosts of the dead by a demon or familiar spirit, which they had at their command to employ upon every emergency. This demon was called *Ob*; and therefore Saul desires his servants to find him a woman who was mistress of an *Ob*. But though the Egyptian priests were undoubtedly the inventors of necromancy, and though it was from them imported into Greece by the *Selli* or priests of Dodona, it does not appear that the Grecian necromancers pretended to be masters of *obi* or familiar spirits. *Mopsus*, *Orpheus*, *Linus*, *Eumolpus*, &c., who either travelled into Egypt in quest of knowledge, or were actually natives of that country, instructed the early Greeks in this

occult science : but, whatever might be the practice of these apostles themselves, their disciples professed to do all the feats of magic by performing certain rites, by offering certain sacrifices, by muttering a certain form of words, by charms, spells, and exorcisms. By these they pretended to evocate the dead as certainly as the Egyptians and Jews did by their familiar spirits. The popular story of Orpheus and Eurydice was founded on one of these necromantic deceptions exhibited in a cave near Dodona, where the priests had a hades or infernal mansion, in imitation of those with which the first of them were well acquainted in Egypt. Virgil makes one of his shepherds, by means of certain herbs, poisons, and senseless charms, raise up ghosts from the bottom of their graves; and Lucan (Lib. vi. ver. 570), before the battle of Pharsalia, makes young Pompey travel by night to a Thessalian sorceress, and anxiously enquire of her the issue of the war. This female necromancer, by a tedious process of charms and incantations, conjures up the ghost of a soldier who had been lately slain. The phantom, after a long preamble, denounces a prediction much of the same kind with that which Saul received from Samuel at Endor. Not many years ago some of the Highlanders relied implicitly upon certain oracular responses, called in their language taghairm. This word seems to be compounded of ta, which in some parts of the Highlands is still used to denote a spirit or ghost, and ghairm, which signifies calling upon or invoking. Taghairm, therefore, in its original import, is necromancy in the most proper sense of that word. There were different kinds of taghairm, of which one was very lately practised in Sky. The diviner covered himself with a cow's hide, and repaired at night to some deep-sounding cave, whither the person who consulted him followed soon after without any attendants. At the mouth of the cave he proposed aloud the questions of which he wanted solutions; and the man within pronounced the responses in a tone of voice similar to that with which the obi, or pretended demons of antiquity, gave from beneath the ground their oracular answers. Another species, called taghairm an uisge, or taghairm by water, was also last practised in the Isle of Sky, by a man of the name of M'Cuidhean, whose ancestors had long been famous for the art. He lived near a beautiful cascade on a small river; and, when consulted on any matter of consequence, he covered his whole body with a cow's hide, and placed himself between the water of the cascade and the rock over which it flowed. Then another man with a heavy pole gave repeated strokes to the water, and the diviner behind it crying out now and then in Gaelic, 'Is this a stock of arn?' This operation was continued till M'Cuidhean was perceived to be frantic or furious, when he was considered as in a condition to answer the most important questions. He was frequently consulted about futurity; and though he could not, in the proper sense of the word, be called a necromancer, his responses were listened to as proceeding from something more than human. A degree of frenzy, either real or affected, seems to have accompanied the predictions of certain

kinds of diviners in all ages; and we cannot help remarking the similarity between the madness of M'Cuidhean and that of the Sybil in the Æneid. That all these pretences, whether ancient or modern, to the power of divination by means of familiar spirits, or by the art of necromancy, were groundless as well as impious, it is needless to offer any proof.

NECROPOLIS, a suburb of Alexandria in Egypt. The name signifies the City of the Dead; and contained temples, gardens, and superb mausoleums. Here Cleopatra applied the asp to her breast, to prevent her being led in triumph by Augustus.

NECROSIS, in surgery, from Gr. νεκρωσ, to destroy, mortification of the bones. See SURGERY.

NECTANEBUS II., king of Egypt, made an alliance with Agesilaus king of Sparta, and with his assistance quelled a rebellion of his subjects. Some time after he was joined by the Sidonians, Phœnicians, and inhabitants of Cyprus, who had revolted from the king of Persia. This powerful confederacy was soon attacked by Darius king of Persia. Nectanebus, to defend his frontiers, levied 20,000 mercenary soldiers in Greece, as many in Libya, and 60,000 in Egypt. This numerous body was not equal to the Persian forces, and Nectanebus, defeated in a battle, gave up all hopes of resistance, and fled into Ethiopia, where he found a safe asylum. Egypt became from that time tributary to the king of Persia.

NECTAR, *n. s.* } Lat. *nectar*; Gr.
NECTARED, *adj.* } νεκταρ. The sup-
NECTAREOUS, } posed drink of the
NECTARINE, *adj. & n. s.* } gods. See below.
 Nectared is tinged with, or sweet as nectar: nectareous is resembling nectar: nectarine, synonymous, as an adjective, with nectared; and, as a substantive, a fruit of the plum kind.

How charming is divine philosophy!
 Not harsh and crabbed, as dull fools suppose,
 But musical as is Apollo's lute,
 And a perpetual feast of nectared sweets,
 Where no crude surfeit reigns. *Milton.*

To their supper-fruits they fell;
Nectarine fruits. *Id.*

The only *nectarines* are the murry and the French; of the last there are two sorts, one, which is the best, very round, and the other something long; of the murry there are several sorts. *Temple.*

He with the Nais wont to dwell,
 Leaving the nectared feasts of Jove. *Fenton.*
 Annual for me, the grape, the rose renew,
 The juice nectareous and the balmy dew. *Pope.*

Rejoice for ever, nature cries; rejoice,
 And drinks to man in her nectareous cup,
 Mixed up of delicacies for every sense;
 To the great founder of the bounteous feast,
 Drinks, glory, gratitude, eternal praise. *Young.*
 Love tuned his song;
 For fair Theana was his only theme,
 And for whom he oft,
 Had climbed the bending cocoa's airy height,
 To rob it of its nectar; which the maid,
 When he presented, more nectareous deemed. *Granger.*

NECTAR, was fabled to be the drink of the gods in contradistinction from their solid food, called ambrosia.

NECTARINE, in botany. See **AMYGDALUS**, and **PERSICA**.

NECTARIUM, from nectar, an appendage of the flowers of many plants, containing a sweet liquor, sucked by bees, &c. See **BOTANY**. All flowers are not provided with it, neither is it essential to fructification. Linné is censured by some botanists for terming the nectarium a part of the corolla. He might (it is said), with equal propriety, have termed it part of the stamina, calyx, or pointal, as it is confined to no particular part of the flower, but is as various in point of situation as of form. The term nectarium is indeed exceedingly vague; and, if any determinate meaning can be affixed to it, is expressive of all the singularities which are observed in the different parts of flowers. The tube, or lower part of flowers with one petal, Linné considers as a true nectarium, because it is generally found to contain the sweet liquor. This liquor Pontederá compares to that called amnios in pregnant animals, which enters the fertile or impregnated seeds; but that this is not its sole use is evident from this circumstance, that it is found in flowers where there are either no seeds, or those which, from the want of male organs, cannot be impregnated. Thus the male flowers of nettle and willow, the female flowers of sea-side laurel and black bryony, the male and female flowers of clutia, all abound with this honey or nectar. Vaillant was of opinion that the nectarium was an essential part of the corolla: for which reason he distinguished the singular appearances in fennel-flower and columbine by the name of petals: the colored leaves now termed petals he denominated flower-cups. That the nectarium, however, is often distinct from the petals is evident, both from these examples, and from the flowers of monkshood, hellebore, isopyrum, fennel-flower of Crete, barren wort, grass of Parnassus, chocolate-nut, cherleria, and sauvagesia.

NECUA, a name given by the ancient Greeks to a species of mullein. The Greeks and Romans both used the stalks of a peculiar kind of mullein, called thryallis by Nicander. For the making of wicks of lamps we have a kind of mullein called lychnites, and candle-wick mullein, from the *λυχνιτης* of Dioscorides; but it is not certain that ours is the same plant. The ancients used the stalks of many different plants for the wicks of their candles and lamps. The rush, stripped of its bark, was as commonly in use with them as with us for this purpose; and they also used the nettle, this mullein, and many other plants, whose stalks were composed of tough filaments, for the same purpose; beating them out like hemp, and when dry dipping them in melted rosin, and other such inflammable substances. When thus prepared, they are readily inflammable; and this mullein, having stalks more long and large, and more firm than all the others, was used to make those lights with which they set fire to the funeral pile for consuming the bodies of their dead friends.

NECYDALIS, in zoology, a genus of insects belonging to the order of coleoptera. The feelers are setaceous; the elytra are shorter and narrower than the wings; the tail is simple. There are several species, chiefly distinguished by the

size and figure of their elytra. 'Their head is black, eyes are large and prominent, jaws are of a dark brown. The antennæ placed on the top of the head between the eyes have their first articulation long and raised upright, the rest bent and turned aside. The antennæ vary as to length and color. In individuals whose thorax is yellow they are brown, and equal only to two-thirds of the body in length. On the contrary, in those whose thorax is black, they are likewise black, and somewhat longer than the body. The thorax is margined; in some it is yellow and longer in others it is black, shorter, and edged only with a little yellow. The elytra are blackish, somewhat clearer in the middle, and terminating in a lemon-colored spot. The wings are rather black, something longer than the body; exceed the elytra by one-third, and are crossed one over the other. In those which have their thorax yellow the legs and under part of the belly are so likewise. In individuals with a black thorax the legs are black as well as the belly, which has only a little yellow on the sides. See **ENTOMOLOGY**.

NEDSJDJ, an extensive province of Arabia, including nearly all the central parts, and having on the west Hedsjas and Yemen, on the south Hadramaut, on the east Lahsa and Ommon. It is composed of vast mountains and deserts; many parts of which, however, are habitable, and covered with hordes of that nomadic race which characterises this part of the East. The tract bordering on Syria is flat; but to the south rises a very extensive and lofty range of mountains, covered with extensive forests, and maintaining a numerous population. To the south, on the borders of Hadramaut and Ommon, the country again becomes desert. The track, indeed, is almost a Terra Incognita, the existence of which has been chiefly felt by the swarms which have issued from it, to conquer and lay waste neighbouring countries. The Wahabis in modern times are a conspicuous instance. They have occupied the holy cities of Mecca and Medina, and made incursions into Syria and Palestine, and threatened Egypt. Their capital is Derreia. This tract is divided into many petty sovereignties.

NEED , <i>n. s., v. a. & v. n.</i>	} Sax. <i>neod</i> ; Goth. <i>naud</i> ; Belg. <i>nood</i> ; Swed. <i>nod</i> . Want; exigence; extreme poverty or difficulty: to need is to want or lack; and, as a neuter verb, to have necessity; be wanted; be necessary: needful is necessary; indispensable:
NEED'ER , <i>n. s.</i>	
NEED'FUL , <i>adj.</i>	
NEED'FULLY , <i>adv.</i>	
NEED'FULNESS , <i>n. s.</i>	
NEED'ILY , <i>adv.</i>	
NEED'INESS , <i>n. s.</i>	
NEED'LESS , <i>adj.</i>	
NEED'LESSLY , <i>adv.</i>	
NEED'LESSNESS , <i>n. s.</i>	
NEED'MENT , <i>n. s.</i>	
NEEDS , <i>adv.</i>	
NEED'Y , <i>adj.</i>	

needy, poor; necessitous; in distress from poverty: needily, neediness, follow this sense: needless is unnecessary; useless, (obsolete): a needment, something needed: needs, necessarily; indispensably; the other derivations take their meaning from these.

The poor and needy praise thy name. *Psalms.*

The whole need not a physician, but the sick. *Matthew.*

Matthew.

Give us all things that be *needful*, both for our souls and bodies.

Common Prayer.

Defer not to give to him that is in *need*. *Ecclus.*

Behind

His scrip did hang, in which his *needments* he did bind.

Spenser.

Their gates to all were open evermore,
And one sat waiting ever them before,
To call in comers by, that *needy* were and poor.

Id.

More ample spirit than hitherto was wont,

Here *needs* me whiles the famous ancestors,
Of my most dreadful sovereign I recount.

Id.

Their exception against easiness, as if that did nourish ignorance, proceedeth altogether of a *needless* jealousy.

Hooker.

God must *needs* have done the thing which they imagine was to be done.

Id.

The very stream of his life, and the business he hath helmed, must, upon a warranted *need*, give him a better proclamation.

Shakspeare.

Famine is in thy cheeks ;

Need and oppression stare within thine eyes,

Contempt and beggary hang upon thy back.

Id.

God grant we may never have *need* of you.

Id.

For his weeping in the *needless* stream,

Poor dear, quoth he, thou makest a testament,

As wordlings do, giving thy sum of more

To that which had too much.

Id.

This sudden stab of rancour I misdoubt ;

Pray God, I say, I prove a *needless* coward.

Id.

Basest beggars

Are in the poorest things superfluous ;

Allow not nature more than nature *needs*,

Man's life is cheap as beasts.

Id.

In his *needy* shop a tortoise hung,

An alligator stuffed, and other skins

Of ill-shaped fishes.

Id. Romeo and Juliet.

If the time thrust forth

A cause for thy repeal, we shall not send

O'er the vast world, to seek a single man ;

And lose advantage, which doth ever cool

In the absence of the *needer*.

Id.

Do you consent we shall acquaint him with it,

As *needful* in our loves, fitting our duty ?

Id.

Whereas men have many reasons to persuade ; to use them all at once, weakeneth them. For it argueth a *neediness* in every of the reasons, as if one did not trust to any of them, but fled from one to another.

Bacon.

Another being elected and his ambassadors returned, he would *needs* know the cause of his repulse.

Davies.

They who

Dare for these poems, yet both ask and read,

And like them too ; must *needfully*, though few,

Be of the best.

Ben Jonson.

Needs must they come whom God brings.

Bp. Hall.

Thou thy regal sceptre shalt lay by,

For regal sceptre then no more shalt *need*.

Milton.

That spirit that first rushed on thee,

In the camp of Dan,

Be efficacious in thee now at *need*.

Id.

I perceive

Thy mortal sight to fail : objects divine

Must *needs* impair, and weary human sense.

Id.

To say the principles of nature must *needs* be such as philosophy makes them, is to set bounds to omnipotence.

Glawville.

Nuptials of form, of interest, or of state,

Those seeds of pride are fruitful in debate :

Let happy men for generous love declare,

And chuse the *needy* virgin, chaste and fair.

Id.

We render languages more difficult to be *learnt*, and *needlessly* advance orthography into a troublesome art.

Holder.

A trial at law must *needs* be innocent in itself, when nothing else corrupts it ; because it is a thing which we cannot but want, and there is no living in this world without it.

Kettlewell.

Being put to right himself upon the *needy*, he will look upon it as a call from God to charity.

Id.

We bring into the world a poor *needy* uncertain life, short at the longest, and unquiet at the best.

Temple.

In thy native innocence proceed,

And summon all thy reason at thy *need*.

Dryden.

I have affairs below,

Which I must *needs* dispatch before I go.

Id.

All things *needful* for defence abound,

Mnestheus, and brave Seresthus walk the round.

Id.

To ask whether the will has freedom ? is to ask, whether one power has another ? A question too absurd to *need* an answer.

Locke.

To explain St. Paul's epistles, after so great a train of expositors, might seem censurable for its *needlessness*, did not daily examples of pious and learned men justify it.

Id.

When we have done it, we have done all that is in our power, and all that *needs*.

Id.

He that would discourse of things, as they agree in the complex idea of extension and solidity, *needea* but use the word body.

Id.

To my present purpose it is not *needful* to use arguments, to evince the world to be infinite.

Id.

God sometimes calls upon thee to relieve the *needs* of thy brother, sometimes the necessities of thy country, and sometimes the urgent wants of thy prince.

South.

A lonely desert and an empty land,

Shall scarce afford, for *needful* hours of rest,

A single house to their benighted guest.

Addison.

To relieve the *needy*, and comfort the afflicted, are duties that fall in our way every day.

Id.

Would not these be great and *needless* abatements of their happiness, if it were confined within the compass of this life only ?

Atterbury.

Money we either lock up in chests, or waste it in *needless* and ridiculous expences upon ourselves, whilst the poor and the distressed want it for necessary uses.

Law.

God who sees all things intuitively, neither stands in *need* of logick, nor uses it.

Baker.

The largest and the longest kind

Possess the foremost page,

A sort most *needed* by the blind,

Or nearly such, from age.

Couper.

If stormy winds

Rise not, the waters of the deep shall rise,

And, *needing* none assistance of the storm,

Shall roll themselves ashore, and reach him there.

Id.

He does not detain his reader by any *needless* circumlocution.

Cunning.

NEEDHAM (John Tuberville), was born at London, 10th of September 1713. His parents were descended from ancient and noble families. His father, who had once a considerable patrimony at Hilston in Monmouthshire, was of the younger and Catholic branch of the Needham family : the head of the elder and Protestant branch was lord Kilmory, created viscount in 1625. The father of Mr. Needham died young, and left but a small fortune to his four children.

His eldest son, John, prosecuted his studies in the English college of Douay, where he took orders, taught rhetoric for several years, gave eminent proofs of genius, and surpassed all the other professors in experimental philosophy. In 1740 he was engaged in the English mission, and was entrusted with the direction of the school at Twyford, for the education of Roman Catholic youth. In 1744 he was appointed professor of philosophy in the English college at Lisbon, where, on account of ill health, he remained only fifteen months. After this he spent several years at London and Paris, principally in microscopical observations and other branches of experimental philosophy. The results of his experiments were published in the Philosophical Transactions in 1749, and in a volume in 12mo. at Paris in 1750. An account of them was also given by M. de Buffon, in his Natural History. This illustrious French naturalist and Mr. Needham made their experiments and observations together: though the results and systems which they deduced from the same objects and observations were totally different. Mr. Needham was admitted F. R. S. of London in 1747, and F. A. S. some time after. From 1751 to 1767 he was chiefly employed in attending several English and Irish noblemen, as tutor, in their travels through France, Italy, and other countries. He then retired to the English seminary at Paris, and in 1768 was chosen by the Royal Academy of Sciences in that city a corresponding member. When the regency of the late Austrian Netherlands formed the project of an imperial academy, Mr. Needham was invited to Brussels by count Cobentzel and the president Neny, and was appointed chief director. He held this place, with some ecclesiastical preferments in the Low Countries, until his death, December 30th, 1781.

NEEDHAM (Marchmont), an English satirical writer, born at Burford, Oxon, about August 1620. He was sent at the age of fourteen to All Souls College, Oxford, where he was made one of the choristers, and continued till 1637, when he took the degree of A. B. and went to London. About the beginning of the civil wars he became clerk to an attorney at Gray's Inn. In August, 1643, he began a weekly paper entitled *Mercurius Britannicus*, on the side of the parliament. It commenced in August 1643, in one sheet, and continued till the end of 1646. It procured him popularity, and he was distinguished by the title of captain Needham of Gray's Inn. About this time he studied physic, and in 1645 began to practise; by which, and his political writings, he supported a genteel establishment. But on account of some affront he left his party, turned royalist, was introduced to the king at Hampton-court in 1647, and, asking pardon, readily obtained it: after this he wrote another paper, entitled *Mercurius Pragmaticus*; which being equally witty with the former, as satirical against the Presbyterians, made him admired by the wits of the royal party side. However, being narrowly sought after, he left London, and for a time lay concealed at the house of Dr. Peter Heylin, at Minster-Lovel, near Burford, till being discovered, he was imprisoned in Newgate, and in danger of his life. Lenthal the speaker of the

House of Commons, who knew his relations, and Bradshaw president of the high court of justice, treated him favorably, and not only procured his pardon, but, with promise of rewards, persuaded him to change his side once more for the Independents, who then were the uppermost party.—In this temper he published a third weekly paper called *Mercurius Politicus*, which came out every Wednesday, in two sheets 4to., commencing with the 9th of June 1649, and ending with the 6th of June 1650, which being Thursday, he began again with No. 1. This paper, which contained many discourses against monarchy, and in behalf of a free state, was carried on without any interruption till about the middle of April 1660, when it was prohibited by an order of the council of state. Upon the return of Charles II. our author lay hid, till he obtained his pardon; after which he practised physic among the Dissenters, which brought him in a considerable emolument till his death, in 1678. Had he been constant to his principles, he would have been beloved and admired by all; but being mercenary, and preferring his interest to his conscience, he was much hated by the royal party to the last.

NEE'DLE, *n. s.* } Sax. *naðl*; Belg. *naeld*;
NEE'DLE-FISH, } Teut. *nael*. A sewing in-
NEE'DLER, } strument, used by the hand;
NEE'DLE-MAKER, } the steel bar of a compass:
NEE'DLE-WORK, } needle-fish, a sea-fish:

needle and needlemaker are names for the manufacturers of needles: needle-work, the work performed by means of that instrument.

In *needleworks* and embroideries it is more pleasing to have a lively work upon a lightsome ground, than a dark and melancholy work upon a lightsome ground. *Bacon.*

A ship of merchants that fetches her wares from far is the good housewife of the commonwealth; and, if she were so in those blind voyages of antiquity which never saw *needle* or card, how much more thrifty must she needs be in so many helps both of nature and art. *Bp. Hall.*

Go bid the *needle* its dear north forsake,
To which with trembling reverence it doth bend. *Cowley.*

The most curious works of art, the sharpest finest *needle*, doth appear as a blunt rough bar of iron coming from the furnace of the forge. *Wilkins.*

For him you waste in tears your widowed hours,
For him your curious *needle* paints the flowers. *Dryden.*

The use of the loadstone and the mariner's *needle* was not then known. *Burnet's Theory.*

In a curious brede of *needlework*, one colour falls away by such just degrees, and another rises so insensibly, that we see the variety without being able to distinguish the total vanishing of the one from the first appearance of the other. *Addison.*

One rhomboidal bony scale of the *needle-fish*. *Woodward.*

Thy *needles*, once a shining store,
For my sake restless heretofore,
Now rust disused, and shine no more,
My Mary. *Cowper.*

NEEDLE. Needles make a very considerable article in commerce, though there is scarcely any commodity cheaper; the consumption of them being almost incredible.—The sizes are from

No 1. the largest, to No. 25. the smallest. In the manufacture of needles, German and Hungarian steel are of most repute. Besides sewing-needles there are, under the denomination of needle, the netting and the knitting-needle; the glovers' needle, with a triangular point; the tambour needle, which is made like a hook, and fixed in a handle, the hook being thrust through the cloth, the thread is caught under the hook, and the needle is drawn back taking the thread with it.

In the making of them, the first thing is to pass the steel through a coal fire, and, under a hammer, to bring it out of its square figure into a cylindrical one. This done, it is drawn through a large hole of a wire-drawing iron, and returned into the fire, and drawn through a second hole of the iron smaller than the first; and thus successively, from hole to hole, till it has acquired the degree of fineness required for that species of needles; observing every time it is to be drawn that it be greased over with lard, to render it more manageable. The steel thus reduced to a fine wire, is cut in pieces of the length of the needles intended. These pieces, are flattened at one end on the anvil, in order to form the head and eye; they are then put into the fire to soften them further, and thence taken out and pierced at each extreme of the flat part on the anvil, by force of a puncheon of well-tempered steel, and laid on a leaden block to bring out, with another puncheon, the little piece of steel remaining in the eye. The corners are then filed off the square of the heads, and a little cavity filed on each side of the flat of the head; this done, the point is formed with a file, and the whole filed over: they are then laid to heat red-hot on a long narrow iron, crooked at one end, in a charcoal fire; and, when taken out thence, are thrown into a basin of cold water to harden. On this operation a good deal depends; too much heat burns them, and too little leaves them soft; the medium is learned by experience. When they are thus hardened they are laid in an iron shovel on a fire more or less brisk in proportion to the thickness of the needles; taking care to move them from time to time. This serves to temper them, and to take off their brittleness; great care here too must be taken of the degree of heat. They are then straightened one after another with the hammer, the coldness of the water used in hardening them having twisted the greatest part of them.

The next process is the polishing them. To do this they take 12,000 or 15,000 needles, and range them in little heaps against each other on a piece of new buckram sprinkled with emery-dust. The needles thus disposed, emery dust is thrown over them, which is again sprinkled with oil of olives; at last the whole is made up into a roll, well bound at both ends. This roll is then laid on a polishing table, and over it a thick plank loaded with stones, which two men work backwards and forwards a day and a half, or two days, successively, by which means the roll thus continually agitated by the weight and motion of the plank over it, the needles withinside being rubbed against each other with oil and emery, are nicely polished. After polishing they

are taken out, and the filth washed off them with hot water and soap: they are then wiped in hot bran a little moistened, placed with the needles in a round box, suspended in the air by a cord, which is kept stirring till the bran and needles be dry. The needles, thus wiped in two or three different brans, are taken out and put into wooden vessels to have the good separated from those whose points or eyes have been broken either in polishing or wiping: the points are then all turned the same way, and smoothed with an emery stone turned with a wheel. This operation finishes them, and there remains nothing but to make them into packets of from twenty-five to 100 each.

Such was the former method of the manufacture of needles; we shall now give a rather more detailed description of the modern, and improved plan:—The wire when drawn to a proper size, which is ascertained by gages, is made up into coils for package: these coils of wire are heated to a dull red-heat in a furnace, and suffered to cool gradually, to soften and anneal it, with a view of facilitating the working of the steel; this commences by cutting the wire into lengths, which is done by a pair of sheers. The workman, being seated before a bench, takes, perhaps 100 pieces of wire for fine needles, and introduces their ends between the blades, which he opens with his right hand, and pressing the ends of the wire against a gage, which renders them all of one length, he cuts them off, and they drop down into a tin pan placed on a small shelf in front of the bench; the ends of the wire are now pressed against the gage and cut off again. In this way the wires are cut into the lengths of the required needles. The second operation is flattening the end for the eye of the needle, which is done by a workman taking three or four pieces of the wire between his finger and thumb, placing them on a small anvil, and striking one blow upon each expands the end sufficiently to receive the point of the punch which pierces the eye. This the same person does, before he lays them down, with a small instrument fixed on the same block as that to which the anvil is fixed. The end of the needle is placed in a small notch in the bed of the instrument, and is put exactly beneath the punch, and a slight stroke of the hammer punches the eye, and at the same time forms the semi-circular groove near the eye of the needle to bury the thread. The notch which receives the needle is made in a piece of steel which fits into a dove-tail notch in the bed of the instrument, so that it can be changed for a larger or smaller, correspondent to the size of the needles to be pierced. The workman holds the needles in the same manner as he did for flattening; and, placing them one by one successively in the notch in the bed-piece, pierces them by striking a single blow of his hammer on the end of a slider; the slider is immediately returned by a spring. He now places the next needle under the punch, and, when they are all pierced in the same manner, he rolls them over by moving his thumb, so as to turn them all half round, and bring them upwards the opposite side to that which was pierced; this being done, he repeats the punch

ing on the other side with a view to finish, and clear the eye, and to form the groove which there is in all needles. They are now rounded at the eye-end to take off the roughness, which is done in an instant by applying them to a grindstone.

The next process is hardening and tempering: the first is done by placing a great number together upon a piece of iron bent up at the ends and sides that they may not roll off, and, introducing them into a small furnace: when they become of a red heat they are taken out, and suddenly plunged into a vessel of cold water; this renders them very hard. Some manufacturers make use of oil, or tallow, or other ingredients instead of water, which substances are supposed to improve the process. The needles thus hardened are returned to the furnace with the oil upon them, and remain there till the oil inflames, when they are withdrawn, and again cooled in cold water. This second process tempers them: at first they were quite hard, and so brittle as to break with the slightest touch; the tempering takes off the brittleness, but leaves them hard enough to take a good point. When they are hardened in water, according to the old method, the heat for tempering them can only be guessed at, or estimated by experience, but the flaming of the oil is a much more certain method. The needles are now examined, and many of them will be found crooked by hardening, which are discovered by rolling them over as they lie in rows on a board, and such are selected and made straight by a blow in the notch in the anvil. Being thus straightened they require to be pointed, which is done by a large grindstone turned by a mill, either of water or steam. In this operation the workman, sitting astride before the stone on a block shaped like a saddle, takes up twenty or thirty needles, laid side by side across a small wooden roller, covered with soft leather; another similar ruler being laid over the needles to confine them. The workman holds the rulers in his hands, and thus, presenting the ends of the needles to the grindstone, points them with great dexterity. After pointing they are to be polished in the manner already described. The points are next finished and rendered perfectly sharp, by grinding them upon a wooden wheel covered with emery, being held in the same manner as for the first grinding. They are then cleaned and packed up in certain numbers according to their sizes. A great number of the small packets are made into larger parcels, wrapped in several thicknesses of paper and coverings of bladder and packing-cloth, in which state they are sent to market.

Surgeons' needles are generally made crooked, and their points triangular; however, they are of different forms and sizes, and bear different names, according to the purposes they are used for. The largest are needles for amputation; the next needles for wounds; the finest needles for sutures. They have others very short and flat for tendons; others still shorter, and the eye placed in the middle, for tying together of vessels, &c. Needles for couching cataracts are of various kinds; all of which have a small, broad, and sharp point or tongue, and some with a sulcus at the point. Surgeons have sometimes used

two needles in this operation; one with a sharp point for perforating the coats of the eye, and another with a more obtuse point for depressing or couching the opaque crystalline lens; but care should be taken in the use of any of these, that they be first well polished with cloth or leather before they are applied to the eye.

Mr. Warner observes that the blade of the couching needle should be at least a third part larger than those generally used upon this occasion, as great advantages will be found in the depressing of the cataract by the increased breadth of the blade of that instrument. The handle, also, if made somewhat shorter than usual, will enable the operator to perform with greater steadiness than he can do with a large-handled instrument. It is to be observed that needles of silver pierce more easily in stitching arteries after an amputation than those made of steel.

We shall close this short article with an account of a patent invention for the manufacture of needles of all sorts by Mr. William Bell of Walsal, which we shall give in his own words. 'The method by which I make needles, bodkins, fish-hooks, knitting-pins, netting-needles, and sail-needles, is by casting them with steel or common fusible iron, called pig or cast iron, into moulds or flasks made with fine sand. Or, otherwise, I make stocks or moulds of iron or steel, or any other composition capable of being made into moulds, on which stocks or moulds I sink, engrave, or stamp, impressions of the said articles. Into these I pour my melted iron or steel (I prefer for my purpose sand casting), and prepare my iron or steel as follows: I melt it in a pot or crucible, in small quantities about the weight of twelve pounds (and upwards to twenty pounds), the more conveniently to divest it of its heterogeneous particles, and to purify it from its earthy or sulphureous qualities. When the iron has attained a proper heat, I take charcoal-dust mixed with lime or common salt, which I throw into the pot of melted iron; and, by frequently stirring it with an iron rod, I bring to the surface of the iron a scoria which I frequently skim off, and thus bring my iron into a refined state. I then pour it into the mould before described. The articles being thus formed are capable of being softened, hardened, or tempered in the usual way by which needles, bodkins, fish-hooks, knitting-needles, netting-needles, and sail-needles have heretofore been manufactured: therefore the principal merit of my invention is in casting them instead of making them in the usual way.'

Needles are said to have been first made in England by a native of India in 1545, but the art was lost at his death; it was, however, recovered by Christopher Greening in 1560, who was settled with his three children, Elizabeth, John, and Thomas, by Mr. Damar, ancestor of the present lord Milton, at Long Crendon in Bucks, where the manufactory has been carried on from that time to the present period.

NEEDLE, DIPPING. See DIPPING NEEDLE, COMPASS, ELECTRO-MAGNETISM, &c.

NEEDLE-FISH. See SYNGNATHUS.

NEEDLES, sharp pointed rocks, north of the

Isle of Wight. They are situated at the west end of the island, which is an acute point of high land, from which they have been disjoined by the washing of the sea. There were of these lofty white rocks formerly three, but about fourteen years ago the tallest of them, called Lot's Wife, which rose 120 above low water mark, and in its shape resembled a needle, being undermined by the constant efforts of the waves, totally disappeared.

NEEDLE'S EYE, a subterranean passage on the coast of Banffshire, 150 yards long from sea to sea, but through which a man can with difficulty creep. At the north end of it is a cave twenty feet high, thirty broad, and 150 long, containing a space of 90,000 cubic feet. The whole is supported by immense columns of rock, is exceedingly grand, and has a surprising effect on the spectator, after creeping through the narrow passage.

NEELGUR, a town of the province of Orissa, Hindostan, in the district of Cuttoch. It gives name to a range of hills which extend west from Midnapore.

NEELE, Henry; an ingenious English poet and novel writer, who died, by his own hand, February 9, 1828, in a fit of insanity, supposed to have originated from too intense application to study. He was the son of an engraver, and educated for the profession of a solicitor, which he practised with reputation in London, till his death. He was a man of amiable disposition. Among his publications are Poems; Dramatic Scenes; and the Romance of History, a series of tales relating to persons and events mentioned in English annals. His literary remains have been published since his death.

NE EXEAT REGNO, in law, is a writ to restrain a person from going out of the kingdom without the king's license. It may be directed to the sheriff to make the party find surety that he will not depart the realm, and on refusal, to commit him to prison; or it may be directed to the party himself, and if he then goes he may be fined. And this writ is granted on a suit being commenced against a man in the chancery, when the plaintiff fears the defendant will fly to some other country, and thereby avoid the justice and equity of the court; which has been sometimes practised; and, when thus granted, the party must give bonds to the master of the rolls, in the penalty of £1000, or some other large sum, for yielding obedience to it; or satisfy the court, by answer, affidavit, or otherwise, that he has no design of leaving the kingdom, and give security.

NEFARIOUS, *adj.* Lat. *nefarius*. Wicked; abominable.

NEFASTI DIES, in Roman antiquity, an appellation given to those days wherein it was not allowed to administer justice or hold courts. They were so called, because, non fari licebat, the prætor was not allowed to pronounce the three solemn words or formulas of the law, do, dico, addico, I give, I appoint, I adjudge. These days were distinguished in the calendar by the letter N. for nefastus; or N. P. nefastus primo, when the day was only nefastus in the forenoon, or first part. The days of a mixed kind were called interdicti.

NEGAPATAM, a town and citadel of Tanjore, once the capital of the Dutch possessions on the Coromandel coast. It stands at the mouth of a river, capable of receiving vessels which draw little water; but there is a bar over which the surf breaks with great violence in bad weather. South-east of the town, at the distance of five miles, there is a shoal above five miles in length, having from three to six fathoms water in it. The anchoring place is opposite the town, about three miles from shore, where there is very little current. Negapatam was a small village, first fortified and improved by the Portuguese. It was taken from them by the Dutch in 1660, who strengthened its fortifications, and established a mint here. By degrees its trade increased, and the town was resorted to by merchants from all parts of the world. In 1781 it was captured by the British; and, at the ratification of the peace in 1783, was formally ceded; since which the fortifications have been neglected, and much of the trade transferred to other places. North of the town stands a large pagoda, or Hindoo temple, on which is erected a flag-staff, which in clear weather may be seen at six or seven leagues distance. Long. 79° 55' E., lat. 10° 43' N.

NEGARA, a town of the island of Borneo, and capital of the kingdom of Banjar Massim, situated on the east side of a large river which runs into the sea: 100 miles from the sea, and sixty north from the town of Banjar Massim.

NEGATION, *n. s.* } Fr. *negation*; Lat.
NEGATIVE, *adj. & n. s.* } *negatio*. Denial; de-
NEGATIVELY, *adv.* } scription or argument
by denial, absence, exclusion, or exception: negative is denying; not positive; having the power to deny or withhold; a proposition or particle of denial: negatively follows the senses of the adjective.

The fathers draw arguments from the Scriptures negatively, in reproof of that which is evil; Scriptures teach it not, avoid it therefore. *Hooker.*

Denying me any power of a negative voice as king, they are not ashamed to seek to deprive me of the liberty of using my reason with a good conscience.

King Charles.

A purer substance is defined,

But by an heap of negatives combined;

Ask what a spirit is, you'll hear them cry,

It hath no matter, no mortality. *Cleveland.*

It may be proved in the way of negation, that they came not from Europe, as having no remainder of the arts, learning and civilities of it. *Heylyn.*

To this I shall suggest something by way of answer both negatively and positively. *Wilkins.*

When I asked him whether he had not drank at all? he answered negatively. *Boyle.*

Consider the necessary connection that is between the negative and positive part of our duty.

Tillotson.

Of negatives we have far the least certainty; they are usually hardest, and many times impossible to be proved. *Id.*

The former being as the root and stock, the latter as the fruits and flowers of the duty: unto which may be reduced the correspondent negations, or absence of bad judgments, affections, and deportments, in respect to the same objects. *Barrow.*

There is another way of denying Christ with our mouths which is negative, when we do not acknowledge and confess him. *South.*

I shall show what this image of God in man is, *negatively*, by showing wherein it does not consist; and *positively*, by showing wherein it does. *Id.*

Our assertions and *negations* should be yea and nay, for whatsoever is more than these is sin.

Rogers.

Chance signifies, that all events called casual, among inanimate bodies, are mechanically and naturally produced according to the determinate figures, textures, and motions of those bodies, with this only *negation*, that those inanimate bodies are not conscious of their own operations. *Bentley.*

Negation is the absence of that which does not naturally belong to the thing we are speaking of, or which has no right, obligation, or necessity to be present with it; as when we say a stone is inanimate, or blind, or deaf. *Watt's Logick.*

NEGATIVE SIGN, in algebra. See ALGEBRA. The use of the negative sign is attended with several consequences that at first sight are admitted with difficulty, and has sometimes given occasion to notions that seem to have no real foundation. This sign implies that the real value of the quantity represented by the letter to which it is prefixed is to be subtracted; and it serves, with the positive sign, to keep in view what elements or parts enter into the composition of quantities, and in what manner, whether as increments or decrements (that is, whether by addition or subtraction), which is of the greatest use in this art. In consequence of this it serves to express a quantity of an opposite quality to the positive, as a line in a contrary position; a motion with an opposite direction; or a centrifugal force in opposition to gravity; and thus often saves the trouble of distinguishing, and demonstrating separately, the various cases of proportions, and preserves their analogy in view. But as the proportions of lines depend on their magnitude only, without regard to their position, and motions and forces are said to be equal, or unequal, in any given ratio, without regard to their directions; and in general the proportion of quantity relates to their magnitude only, without determining whether they are to be considered as increments or decrements; so there is no ground to imagine any other proportion of $-b$ and $+a$ (or of -1 and $+1$) than of the real magnitudes of the quantities represented by b and a , whether these quantities are, in any particular case, to be added or subtracted. It is the same thing to subtract a decrement, as to add an equal increment, or to subtract $-b$ from $a - b$, as to add $+b$ to it; and, because multiplying a quantity by a negative number implies only a repeated subtraction of it, the multiplying $-b$ by $-n$, is subtracting $-b$ as often as there are units in n ; and is therefore equivalent to adding $+b$ so many times, or the same as adding $+nb$. But if we infer from this that 1 is to $-n$ as $-b$ to nb , according to the rule that unit is to one of the factors as the other factor is to the product, there is no ground to imagine that there is any mystery in this, or any other meaning than that the real magnitude represented by 1 , n , b , and nb are proportional. For that rule relates only to the magnitude of the factors and product, without determining whether any factor, or the product, is to be added or subtracted. But this likewise must be deter-

mined in algebraic computations: and this is the proper use of the rules concerning the signs, without which the operation could not proceed. Because a quantity to be subtracted is never produced in composition by any repeated addition of a positive, or repeated subtraction of a negative, a negative square number is never produced by composition from the root. Hence $\sqrt{-1}$, or the square root of a negative, implies an imaginary quantity; and, in resolution, is a mark or character of the impossible cases of a problem, unless it is compensated by another imaginary symbol or supposition, when the whole expression may have a real signification.

Thus $1 + \sqrt{-1}$, and $1 - \sqrt{-1}$ taken separately, are imaginary, but their sum is 2 ; as the conditions that separately would render the solution of a problem impossible, in some cases, destroy each others effect when conjoined. In the pursuit of general conclusions, and of simple forms representing them, expressions of this kind must sometimes arise where the imaginary symbol is compensated in a manner that is not always so obvious. By proper substitutions, however, the expression may be transformed into another, wherein each particular term may have a real signification as well as the whole expression. The theorems that are sometimes briefly discovered by the use of this symbol may be demonstrated without it by the inverse operation, or some other way; and, though such symbols are of some use in the computations by the method of fluxions, its evidence cannot be said to depend upon arts of this kind. See ALGEBRA.

NEGELSTADT, a small town of Prussian Saxony, in Thuringia, ten miles south-east of Muhlhausen. Population 800.

NEGINOTH, a term prefixed to some of the Psalms, as Psalm lxxvii. It signifies stringed instruments of music, to be played on by the singers, or women musicians; and the titles of those psalms where this word is found may be thus translated:—A psalm of David to the master of music, who presides over the stringed instruments.

NEGLECT , <i>v. a. & n. s.</i>	} Latin <i>neglectus</i> . To omit carelessly; treat with heedless scorn; delay; postpone: as a substantive it means treatment of this kind, or an instance of such treatment; the adjective and adverb corresponding: neglection is the state of being negligent: neglective, inattentive to: negligence, habit of carelessness or neglect; also an instance of such conduct: negligent, careless; heedless; scornful; sometimes taking <i>of</i> before the object.
NEGLECTFUL , <i>adj.</i>	
NEGLECTFULLY , <i>adv.</i>	
NEGLECTIOUS , <i>n. s.</i>	
NEGLECTIVE , <i>adj.</i>	
NEG'IGENCE , <i>n. s.</i>	
NEG'LIGENT , <i>adj.</i>	
NEG'LIGENTLY , <i>adv.</i>	

My sons, be not now *negligent*; for the Lord hath chosen you to stand before him.

2 Chron. xxix. 11.

If he *neglect* to hear them, tell it unto the church. *Matthew.*

We have been *negligent* in not hearing his voice. *Bar. i. 9.*

I have been long a sleeper; but I trust
My absence doth *neglect* no great design,
Which by my presence might have been concluded.

Shakspeare.

I have perceived a most faint *neglect* of late, which
I have rather blamed as my own jealous curiosity,
than as a very pretence or purpose of unkindness.

Id. King Lear.

Sleeping *neglect*ion doth betray to loss
The conquests of our scarce cold conqueror.

Shakspeare.

She let it drop by *negligence*,
And, to th' advantage, I being here, took't up.

Id.

Insects have voluntary motion, and therefore
imagination; and whereas some of the ancients
have said that their motion is indeterminate, and
their imagination indefinite, it is *negligently* ob-
served: for ants go right forwards to their hills, and
bees know the way to their hives.

Bacon's Natural History.

I wanted not probabilities sufficient to raise jeal-
ousies in any king's heart, not wholly stupid, and
neglective of the public peace.

King Charles.

It is a vain tempting of God to cast ourselves upon
an immediate provision, with *neglect* of common
means.

Bp. Hall.

Age breeds *neglect* in all, and actions
Remote in time, like objects remote in place,
Are not beheld at half their greatness.

Denham.

This my long suffering and my day of grace
Those who *neglect* and scorn shall never taste.

Milton.

Of all our elder plays,
This and Philaster have the loudest fame;
Great are their faults, and glorious is their fame.

In both our English genius is exprest,
Lofty and bold, but *negligently* drest.

Waller.

Rescue my poor remains from vile *neglect*,
With virgin honors let my horse be deck't,
And decent emblem.

Prior.

In comely figures ranged my jewels shone,
Or *negligently* placed for thee alone.

Id.

If the father caress them when they do well, and
show a cold and *neglectful* countenance to them upon
doing ill, it will make them sensible of the difference.

Locke on Education.

Though the Romans had no great genius for trade,
yet they were not entirely *neglectful* of it.

Arbutnot on Coins.

Let stnbborn pride possess thee long,
And be thou *negligent* of grace;

With every muse to grace thy song,
May'st thou despise a poet's name.

Swift's Miscellanies.

Her daughters see her great zeal for religion; but
then they see an equal earnestness for all sorts of
finery. They see she is not *negligent* of her devotion;
but then they see her more careful to preserve her
complexion.

Law.

Despondency has never so far prevailed as to de-
press me to *neglect*.

Johnson. Preface to Dictionary.

There are certain forms and etiquettes in life,
which, though the *neglect* of them does not amount
to the commission of a crime, or the violation of a
duty, are yet so established by custom, as to pass into
statutes, equally acknowledged and almost equally
binding to individuals, with the laws of the land, or
the precepts of morality.

Canning.

NEGOMBO, a large town on the west coast
of Ceylon, and well situated for inland trade,
particularly with Columbo, by a branch of the
Mullivaddy River. It has a fort, and three

ranges of buildings for cinnamon store-houses
and barracks. Many Dutch families reside in
the town; its other inhabitants are persons from
different parts of the east. The women, though
dark, are said to be very handsome. The vicini-
ty produces cinnamon and rice in abundance;
and the gardens are well stocked with vegetables.
It was taken by the British in 1796. Long. 79°
49' E., lat. 7° 19' N.

NEGOCIATE, *v. a.* } Fr. *negocier*, of Lat.
NEGOCIATION, *n. s.* } *negotium*. To have
NEGOCIATOR. } amicable intercourse

respecting public or private business: a negocia-
tion is a parley or treaty relating to such busi-
ness: negociator he who conducts it.

Have you any commission from your lord to *nego-*
ciate with my face?

Shakspeare.

Oil is slow, smooth, and solid; so are Spaniards
observed to be in their motion: Though it be a ques-
tion yet unresolved, whether their affected gravity
and slowness in their *negotiations* have tended more
to their prejudice or advantage?

Howard.

It is a common error in *negotiating*; whereas men
have many reasons to persuade, they strive to use
them all at once, which weakeneth them.

Bacon.

A steward to embezzle those goods he undertakes
to manage; an ambassador to betray his prince for
whom he should *negociate*; are crimes that double
their malignity from the quality of the actors.

Decay of Piety.

They that receive the talents to *negotiate* with, did
all of them except one make profit of them.

Hammond.

They ceased not from all worldly labor and *negoti-*
ation.

White.

I can discover none of those intercourses and *negoti-*
ations, unless that Luther *negotiated* with a black
boar.

Atterbury.

Those who have defended the proceedings of our
negotiators at Gertruydenburg, dwell much upon
their zeal in endeavouring to work the French up to
their demands; but say nothing to justify those de-
mands.

Swift.

As soon as this correspondence was concluded,
the rupture of the *negotiation* was made known in
England by a declaration, which, while any sense of
honor remains in the English nation, may always be
recollected with pride and satisfaction.

Canning.

NEGRAIS ISLE, an island of the Birman
empire, with an excellent harbour, situated at the
western mouth of the Irrawaddy River. The west-
ern point is called Cape Negrais, and is known
by a temple of Boodh erected on it. This island
was occupied by the British so early as the year
1697, and it was supposed that it would com-
mand the whole of the Pegue trade, and form a
secure harbour for ships during the monsoons;
but, the former idea proving fallacious, the settle-
ment was withdrawn. In 1757, Aompra, the
Birman emperor, formally ceded the island to
the English, who, in consequence took posses-
sion of it in August of that year; but in October
1759 the place was suddenly attacked, and all
the British who could not effect their escape
were put to death. Since that period the Bi-
rmans will not permit any ships to pass up the
Bassein branch of the river. Cape Negrais, the
south-west point of this island, is in long. 94°
14' E., lat. 16° 1' N.

NEGRO, *n. s.* Span. and Ital. *negro*; Fr.
negre of Lat. *niger*, black. A black man

A negro has a soul an' please your honor, said the corporal doubtfully. *Sterne.*

I mean the African slave trade, the enormous increase of which if the whole island of Trinidad should be to be brought into cultivation by imported negroes, must be such as to appal any man who looks at it, and such as must shock this house when it considers its own recorded opinions upon that subject. *Canning.*

NEGRO, *Homo pelli nigrâ*, is a name given to a variety of the human species, who are entirely black, and are found in the Torrid zone, especially in that part of Africa which lies within the tropics. In the complexion of negroes we meet with many various shades; but they likewise differ far from other men in all their features. Round cheeks, high cheek bones, a forehead somewhat elevated, a short, broad, flat nose, thick lips, small ears, ugliness, and irregularity of shape, characterise their external appearance. The negro women have the loins greatly depressed, and very large buttocks, which gives the back the shape of a saddle. Vices the most notorious that can disgrace human nature have been ascribed to this unhappy race. But by whom has this picture been drawn? By those persons chiefly who have been interested in representing them, because they treated them as worse than brutes.

The origin of the negroes, and the cause of their remarkable difference from the rest of the human species, has much perplexed naturalists. Mr. Boyle has observed that it cannot be produced by the heat of the climate: for, though the heat of the sun may darken the color of the skin, yet experience does not show that it is sufficient to produce a new blackness like that of the negroes. In Africa itself many nations of Ethiopia are not black; nor were there any blacks originally in the West Indies. In many parts of Asia, under the same parallel with the African region inhabited by the blacks, the people are but tawny. He adds that there are negroes in Africa beyond the southern tropic; and that a river sometimes parts nations, one of which is black, and the other only tawny. Lord Kames has contended that no physical cause is sufficient to change the color, and what we call the regular features of white men, to the dark hue and deformity of the woolly-headed negro. His arguments have been examined with much acuteness and ingenuity by Dr. Stanhope Smith of New Jersey, Dr. Hunter, and professor Zimmerman, who have made it in a high degree probable, that the action of the sun is the original and chief cause of the black color, as well as distorted features, of the negro. See AMERICANS and COMPLEXION.

True negroes are certainly not found in any quarter of the globe where the heat of the climate is not very great. They exist no where but in the torrid zone, and only in three regions situated in that zone, to wit, in Senegal, in Guinea, and on the western shores of Africa, in Nubia, and the Papous land, or what is called New Guinea. In all these regions the atmosphere is scorching, and the heat excessive. The inhabitants of the north are whitest; and as we advance southwards

towards the line, and those countries on which the sun's rays fall more perpendicularly, the complexion gradually assumes a darker shade. And the same men, whose color has been rendered black by the powerful action of the sun, if they remove to the north, gradually become whiter (at least their posterity), and lose their burnt color. Whites, when transported into the burning regions of the torrid zone, are at first subject to fever; the skin of the face, hands, and feet, becomes burnt, hardens, and falls off in scales. Hitherto the color of negroes appear to be only local, extrinsic, and accidental, and their short frizzled hair resembles fine wool. The varieties in the color of negroes, who always go naked, are also owing to the different temperature of their climates. During eight months of the year they have a continued drought, a sky constantly clear, no rain or storm of any kind, excessive heat, and a plentiful fall of dew after sunset. Their food and the exhalations from the surface of the earth may likewise contribute to the production of this phenomenon. It is evident, then, that the races of black and white men are not two different species, because the fruit of their connection has the faculty of re-producing beings like themselves, excepting the color. The young negroes at birth, and even negro fetuses, have a considerable resemblance to whites, excepting only that the scrotum and glans penis are black, and that they have a black or brown thread or circle on the extremity of the nails. These marks are a certain sign that the infant will be black; and negro fathers, who suspect the fidelity of their wives, consider the want of them as a sufficient reason for abandoning the offspring. Among the Indians the scrotum is gray, and in mulattoes of a pale red. The bodies of young negroes are whitish for the first eight days, but their natural color, though weak, is easily discernible; the skin begins to grow brown, then assumes a color inclining to that of bistre, and last of all becomes black. Some modern anatomists of great celebrity, who have enquired into the cause of this blackness, have found that the reticulum in negroes is really as black as ink, and that this mucous color shines through the whitish epidermis, which is thin and transparent. See *Mem. de de l' Acad. des Sciences*, part 30, art. 13. anno 1702. See also *Traité de la couleur de la Peau Humaine*, by M. le Cat. For the opinions of Blumenbach, and other able modern writers on this subject, see ALBINO.

The following is a table of the mixtures which produce a degradation of the black and white colors in the human species. 1. A white man with a negro woman, or a negro man with a white woman, produce a mulatto, half white and half black, or of a yellow-blackish color, with black, short, frizzled hair. 2. A white man with a mulatto woman, or a negro with a mulatto woman, produce a quarteron, three-fourths white and one-fourth black, or three-fourths black and one-fourth white, or of a lighter yellow than the former. In America they give the name of cabres to those who are descended from a black man and a mulatto woman, or a mulatto man and a black woman, who are three-fourths black

and one-fourth white, and who are not so black as a negro, but blacker than a mulatto. 3. A white man with a quarteron woman, or a negro man with a quarteron woman, produce a mestizo, seven-eighths white and one-eighth black, or seven-eighths black and one-eighth white. 4. A white man with a mestizo woman, or a negro with a mestizo woman, produce, the one almost a perfect white, the other almost a perfect black. In following generations, if a constant intermixture has taken place, and the white has been married in Europe, the black in Senegal, the complexion will gradually become fairer or darker, till the offspring is either entirely black or entirely white. Such is the progress of physical effects and causes in the degradation of the color of the human species. Crossing the breed for four generations is sufficient to render a negro white, and the same will make a white black. It is evident that the mixtures, a mulatto man with a quarteron or mestizo woman will produce other colors approaching to white or black, in proportion to the progression above stated. We have observed, under former articles, that the preservation and continuation of the particular species appears to proceed from that parent, who, in the act of procreation, has discovered most strength and vigor; and this is commonly the father. A young negro woman in Virginia, after having brought forth for the first time a black child, was delivered a second time of twins; one of them, a boy, was black, and the other, who was a girl, was a mulatto. As the boy grew up he retained his short hair, which was naturally frizzled, and had a resemblance to wool; other marks plainly showed that he was a true negro, and in every respect like the black father who had begotten him. The girl, on the other hand, was tolerably white; she had blue eyes, long black hair, without any natural curl; in short, she had a great resemblance to the overseer of the plantation, whom the negro husband suspected of cohabiting with his wife. Becoming pregnant a third time, she was delivered of three children, two of them mulattoes, and the other a perfect negro. Shall we ascribe this to the effect of imagination? Such an explanation is rejected by the philosopher as absurd, and contrary to every law of nature.

NEGRO SLAVERY. See **SLAVERY** and the **SLAVE TRADE**.

NEGRO RÍO, a large river of South America, rising in the eastern declivity of the Andes, in New Granada; and after a long course, during which it collects the tribute of numerous inferior streams, falling into the Amazons, in lat. 3° 16' S. The fact of the communication of this river with the Cassiquiari, a tributary of the Orinoco, after being long doubted, was at length established by Humboldt, who, ascending the Orinoco, made his way into the Cassiquiari, and thence into the Rio Negro.

NEGRO RÍO, a large river of South America, which has its rise in the eastern declivity of the Chilian Andes, and running across the continent in a south-eastern direction, falls into the Atlantic Ocean, in lat. 41° S. 2. A river of the province of Buenos Ayres, which runs south-west and joins the Uruguay. 3. A river of New Granada,

in the province of Tunja, which enters the Magdalena. There is also another of the same name which enters the Lebrija. 4. A river of New Granada, in the province of Ubaque, which rises near Santa Fe, and enters the Meta, after a course of seventy-five miles. 5. A river of Terra Firma, in Veragua, which enters the Pacific Ocean. 6. A river of Buenos Ayres, in the province of Tucuman, which runs east and enters the Vermejo. 7. A river of the province of Maracaibo, which enters the lake of that name. 8. A river of Peru, in the province of Chachypoyas, which enters the Mayobamba. 9. A small river of Paraguay, which enters the Parana.

NEGRO LAKE, BANDEL D' AGOA, or NEGRO BAY, a bay on the east coast of Africa, in about lat. 10° N., is limited on the south by Morro Cobir Point (serpent's head), to which succeeds Cape Delgado, so high as to be seen twelve leagues. Hence to Cape d'Orfui the coast forms a great open bay.

NEGROES, ISLAND OF NEGROES, or BUGLAS, is one of the Philippine Islands, about 240 miles in circumference, adjoining in rice: it supplies Seba, and other adjacent parts. It derives its name from the blacks who occupy the mountains. Their intestine wars are frequent and fatal, as they use poisoned arrows, headed with iron, flint, bone, or wood hardened in the fire. The mouths of the river are occupied by another tribe who seem to have no intercourse with the others. When the island is invaded by pirates, they defend it by their arms, and having accomplished this service, which they perform as the old lords of the island, they retire. The Bisays, who live on the plain and are most numerous on the west side, supply these blacks with rice, as an acknowledgment for permission to settle there. The island contains about 3000 persons, who pay tribute, and are governed by a corregidore and military commander. The cacao was first brought to the Philippines from New Spain: the rice is produced in the mountains without cultivation. N. lat. 10° 10', E. long. 122° 30'.

NEGROES, WHITE. See **ALBINO**.

NEGROLAND, or NIGRITIA, is a name that has been given to an immense extent of country in the interior part of Africa, comprehending many large and populous kingdoms, and extending from W. long. 7° to E. long. 27° and from 10° to 25° N. lat.; bounded on the north by Sahara and mountains that separate it from Barbary, on the east by Nubia and Abyssinia, on the south by Guinea and unknown countries, and on the west by Guinea. The Arabs call this country Soudân, and the natives Aasnou, both words denoting 'the land of the blacks;' some restrict these appellations to the empire of Cashna, north of the Niger; others extend it to the Negro states on the south of the river. Some parts, especially near the Niger, are represented as very fertile, others are no less sandy and desert, but the interior of this part of Africa is little known.

NEGROPONTE, or Egribos, the ancient Eubæa, a narrow island of Greece, with several good harbours lying on the east coast of Livadia, from which it is separated by a narrow channel, called the strait of Euripus, remarkable for its

irregular tides. But here is a bridge connecting it with the continent: and the island is one of the largest in Greece, containing a population of 60,000 souls. Its surface is mountainous, and in general barren, the tops of the ranges being covered with snow during a part of the year; but the valleys and plains are fertile in corn, wine, fruit, and oil. The pasturage has been in repute for ages. The chief mineral productions are marble and copper. Long. 23° 10' to 24° 44' E., lat 38° to 39° 10' N.

NEGROPONTE, the ancient Chalcis, the capital of the island of this name, is a place of considerable size, on the west coast, and connected with the continent by the bridge above mentioned, the strait at this place being about 200 feet wide. Hence the name Euripoponte, pronounced Evriponte, and corrupted into Negroponte. It has a draw-bridge which can be opened for the passage of vessels. The town is fortified, and has on the south side a port, the ancient Aulis, and capable of containing several hundred vessels in perfect safety. The suburbs are separated from the town by a deep ditch. The inhabitants amount to about 16,000. The town was taken by the Turks by assault, in 1462, and besieged without success, by the Venetians, in 1688. The Capudan Pacha, to whose government the island lately belonged, had here a palace. Twenty-eight miles north of Athens. Long. 23° 33' E., lat. 38° 31' N.

NEHEMIAH, from Heb. נְהִיָּה, he rested, and הִי, the Lord, i. e. the Lord's rest, son of Hachaliah, was born at Babylon during the captivity (Neh. i. 1, 2, &c.) He was, according to some, of the race of the priests, but, others think, of the tribe of Judah and the royal family. The former support their opinion by a passage in Ezra (x. 10), where he is called a priest; but the latter argue, 1st, that Nehemiah having governed the republic of the Jews for a considerable time, there is great probability he was of that tribe of which the kings always were: 2dly, that the office of cup-bearer to the king of Persia, to which Nehemiah was promoted, is a proof that he was of an illustrious family; and 3dly, that hence Sanballat accused him of aiming at the royalty (Neh. vi. 6, 7). Scripture (Ezra ii. 62, Neh. vii. 65) calls him תִּרְשָׁתָה תִּרְשָׁתָה תִּרְשָׁתָה, or cup-bearer; as he had this employment at the court of Artaxerxes Longimanus. He had a great affection for the country of his fathers, though he had never seen it; and fasted, and prayed that the Lord would favor the design he had of asking the king's permission to rebuild Jerusalem. The course of his attendance at court being come, he presented the cup to the king according to custom, but with a dejected countenance; which the king observing, Nehemiah told him the occasion of his disquiet, and Artaxerxes gave him leave to go to Jerusalem and repair it, ordered the governors beyond the Euphrates to furnish wood, and appointed him governor of Judea, A. M. 3550. His execution of this commission; his rebuilding the walls, towers, and gates of Jerusalem; the invidious attempts of Sanballat and Tobiah to discourage him, and obstruct the work; his solemn dedication of the walls, towers, &c., when completed, with the sacrifices and festivals

accompanying it; and his complete reformation of various abuses which had taken place among the Jews, are particularly recorded in the book which bears his name. This important reformation was accomplished A. M. 3554. In the second book of Maccabees (i. 19, 20, 21, &c.) it is said that Nehemiah sent to search for the holy fire, which before the captivity of Babylon the priests had hid in a dry and deep pit; but not finding any fire there, but instead thereof a thick and muddy water, he sprinkled this upon the altar, whereupon the wood which had been sprinkled with it took fire as soon as the sun began to appear; which miracle coming to the knowledge of the king of Persia, he caused the place to be encompassed with walls where the fire had been hid, and granted great favors and privileges to the priests. It is also said, 2 Mac. ii. 13, 14, that Nehemiah erected a library, wherein he placed whatever he could find of the books of the prophets, of David, and of such princes as had made presents to the temple. Lastly, he returned to Babylon (id. v. 14, and xiii. 6), according to the promise he had made to king Artaxerxes, about the thirty-second year of this prince, in the year 3563. From thence he returned again to Jerusalem, where he died in peace, about A. M. 3580, having governed the people of Judah about thirty years. It is doubted whether this Nehemiah be the same that is mentioned in Ezra (ii. 2, and Neh. vii. 7) among those who returned from the Babylonish captivity under Zerubbabel; since, from the first year of Cyrus to the twentieth of Artaxerxes Longimanus, there are no less than ninety-two years intervening; so that Nehemiah must at this time have been a very old man, upon the lowest computation 100, consequently incapable of being the king's cup-bearer, of taking a journey from Shushan to Jerusalem, and of behaving there with all the courage and activity recorded of him. Upon this presumption, therefore, we may conclude that this was a different person, though of the same name, and that Tirshatha (the other name by which he is called, Ezra ii. 63, and Neh. vii. 65) denotes the title of his office, and both in the Persian and Chaldean tongues was the general name given to the king's deputies and governors.

NEHEMIAH, a canonical book of the Old Testament, which records the above transactions, and is supposed to have been chiefly written by Nehemiah. This book, which in the English and Hebrew bibles, has the name of Nehemiah, in the Latin bible is called the book of Esdras. There are some things in it, however, which could not have been written by Nehemiah himself; for example, memorials are quoted (ch. xii. 22, 23) wherein were registered the names of the priests in the time of Jonathan, or Johanan, the son of Eliashib, and even to the times of the high priest Jaddua, who met Alexander the Great. See JEWS. These therefore must have been added afterwards.

NEHRWALLA, called also Pattan, or the City, an ancient town of Hindostan, formerly the capital of Gujerat. It has two fortresses, one of stone, the other of brick; but both in ruins. There is not a tradition of the period

when this place was founded; but it was long the residence of a dynasty of Rajpoot princes, and taken and plundered in the year 1025, by the celebrated Mahmud of Ghizne. In the fourteenth century Gujerat became an independent kingdom, the founder of which was a convert to Mahometanism, and in 1409 Ahmed Shah, founding the city of Ahmedabad, transferred the seat of government thither. It at present belongs to the Mahrattas.

NEIF, *n. s.* Isl. *nefi*; Scott. *neef*, fist. It is likewise written neef.

Sweet knight I kiss thy *neif*. *Shakspeare.*

NEIGH, *n. s. & v. n.* Sax. *hnægan*; Belg. *negen*; Lat. *hinnio*. The voice or noise of a horse or mare: to utter such sound.

They were as fed horses, every one *neighed*.

Jer. v. 8.

Note a wild and wanton herd,
O race of youthful and unhandled colts,
Fetching mad bounds, bellowing and *neighing* loud.

Shakspeare.

It is the prince of palfreys; his *neigh* is like the bidding of monarchs, and his countenance enforces homage.

Id.

Run up the ridges of the rocks amain;
And with shrill *neighings* fill the neighbouring plain.

Dryden.

The generous horse, that nobly wild,
Neighs on the hills, and dares the angry lion.

Smith.

NEIGH'BOUR, *n. s. & v. a.* } Sax. *negebur*;
NEIGH'BOURHOOD, *n. s.* } Goth. *nabur*;
NEIGH'BOURLY, *adj. & adv.* } Teut. *nachbur*;
of NIGH, and Goth. *bug*, to dwell. (Thomson.)
One who lives near another; a familiar acquaintance, intimate, or confidant; any thing next or near another: to neighbour is to adjoin or abut upon; to acquaint with or make approach to: neighbourhood, place or places adjoining or within communication; state of being near: neighbourly is befitting, or as a neighbour; kind; civil; social.

He willing to justify himself seide to Ihesus, and who is my *neighbore*?

Wiclif. Luk. x.

These grow on the leisurely ascending hills that *neighbour* the shore.

Sandys's Journey.

Sins against men are injuries: hurts, losses, and damages, whereby our *neighbour* is in his dignity, life, chastity, wealth, good name, or any way justly offended, or by us hindred.

Perkins.

Masters, my good friends, mine honest *neighbours*,
Will you undo yourselves? *Shakspeare. Macbeth.*

This man shall set me packing;

I'll lug the guts into the *neighbour* room.

Shakspeare.

The deep revolving witty Buckingham

No more shall be the *neighbour* to my counsels.

Id.

Wholesome berries thrive and ripen best,

*Neighbour*ed by fruit of baser quality.

Id.

That being of so young days brought up with him,
And since so *neighbour*ed to his youth and 'haviour.

Id.

The Scottish lord hath a *neighbourly* charity in him; for he borrowed a box of the ear of the Englishman, and swore he would pay when he was able.

Id. Merchant of Venice.

The Woodberry so nigh, and *neighbourly* doth live,
With Abberley his friend.

Drayton.

He sent such an addition of foot as he could
draw out of Oxford, and the *neighbouring* garrisons.

Clarendon.

One in the *neighbourhood* mortally sick of the small-pox, desiring the doctor to come to him.

Fell.

The gospel allows no such term as a stranger; makes every man my *neighbour*.

Sprat's Sermons.

I could not bear

To leave thee in the *neighbourhood* of death,
But flew in all the haste of love to find thee.

Addison.

Things nigh equivalent and *neighbouring* value,
By lot are parted.

Prior.

He steals my customers; twelve he has under bonds never to return: judge if this be *neighbourly* dealing.

Arbuthnot.

Consider several states in a *neighbourhood*; in order to preserve peace between these states, it is necessary they should be formed into a balance.

Swift.

You should always change and alter your intercessions, according as the needs and necessities of your *neighbours* or acquaintance seem to require.

Law.

A kid sometimes for festivals he slew,
The choicer part was his sick *neighbour's* due.

Harte

How ill mean *neighbourhood* your genius suits,
To live like Adam midst an herd of brutes! *Id.*

When chapman bullies leave the street

And drouthy *neebors*, *neebors* meet,

As market-days are wearing late,

An' folk begin to tak the gate.

Burns.

NEIRA, one of the Banda islands, lying north of Great Banda, and separated from Gongong Apy on the west, by a narrow channel. This island is two and a quarter miles in length, and about three-quarters of a mile in extreme breadth. It is defended by the forts Narson and Belgica, the former a square, the latter a pentagon commanding it, and entered by a ladder to reach a door in one of the curtains. At the south extremity of the island is a town consisting of very neat houses of one story, on account of the earthquakes, which are frequent. The south-west extremity is inhabited by Chinese and other fishermen. Long. 130° E., lat. 4° 31' S.

NEISSE, a principality of Prussian Silesia, long governed by the bishop of Breslau. Part of it is in Austrian Silesia, and has lately lost the name of Neisse, being incorporated into the circle of Troppau. The Prussian part is included in the government of Opeln. Its area is 550 square miles; its population 73,000. Neisse, the chief place of the principality, is one of the chief fortresses of Prussia, and possesses the means of laying its environs under water. It is a clean well-built town, containing a splendid episcopal mansion, a collegiate church, four other churches, with a monastery and convent belonging to the Catholics, and a Lutheran church and school. The king and bishop have separate officers for the collection of the revenue, and separate courts of justice. The chief employments are brewing, weaving, woollen, linen, ribands, and stockings, and a brisk traffic in yarn. In the neighbourhood are quarries of excellent stone. Neisse was taken by the Prussians under Frederick II. in 1741. Population 8000. Forty-six miles south by east of Breslau, and thirty west of Opeln.

NEISSE, a river of East Germany, which rises in Bohemia, in the circle of Bunzlau, enters Lusatia above Zittau, becomes navigable at Guben, and afterwards falls into the Oder. It is joined in its course by the Black Neisse, a smaller stream. This is also the name of a rapid stream in Prussian Silesia, which rises on Mount Schomberg, in the Sudetic chain, near Glatz, and falls into the Oder.

NEITHER, *conj. & pro.* Sax. наѣр. Not either: a negative particle with which *nor* corresponds; used at the beginning, middle, and end of sentences, as below.

Ye shall not eat of it, *neither* shall ye touch it.

Gen. iii. 3.

Fight *neither* with small nor great, save only with the king.

1 Kings xxii. 31.

Which of them shall I take

Both, one, or *neither*? *neither* can be enjoyed

If both remain alive. *Shakspeare. King Lear.*

If it be thought that it is the greatness of distance, whereby the sound cannot be heard; we see that lightnings and corruscations, near at hand, yield no sound *neither*.

Bacon.

The balance, by a propensity to either side, inclined to *neither*.

Fell.

Men lived at home, *neither* intent upon any foreign merchandise, nor inquisitive after the lives and fortunes of their neighbours.

Heylyn.

This commandment standeth not for a cypher, *neither* is it read and expounded in vain among Christians.

White.

Suffice it that he's dead; all wrongs die with him:

Thus I absolve myself, and excuse him

Who saved my life and honour, but praise *neither*.

Dryden.

Experience makes us sensible of both, though our narrow understandings can comprehend *neither*.

Locke.

They lived with the friendship and equality of brethren, *neither* lord, *neither* slave to his brother; but independent of each other.

Id.

Men come not to the knowledge of ideas which are thought innate 'till they come to the use of reason, nor then *neither*.

Id.

Though few the numbers—theirs the strife,

That *neither* spares nor speaks for life! *Byron.*

NELEUS, in fabulous history, king of Pylos, the son of Neptune by Tyro, and the twin brother of Pelias. See PELIAS. He joined his brother in usurping the kingdom of Iolchos, but, after a short conjunct reign, Neleus was expelled, and fled to Aphaereus, king of Messina, who received him kindly, and allowed him to build the city of Pylos. Neleus married Chloris, the daughter of Amphion, by whom he had a daughter named Pero, and twelve sons, who were all killed by Hercules, except Nestor. Neleus promised his daughter in marriage to the hero who should bring him the bulls of Iphiclus. Melampus accomplished this for his brother Bias. See MELAMPUS.

NELSON (Robert), F. R. S., the son of a Turkey merchant, was born in London in June, 1656. He was educated at St. Paul's, and Trinity College, Cambridge. In 1680 he was chosen F. R. S., and set out with his friend and school-fellow, Dr. Edmund Halley, on his travels, in December, 1680. At Rome he became acquainted with lady Theophila Lucy, widow of

Sir Kingsmill Lucy of Broxburne, bart., and second daughter of George earl of Berkely, whom he married after his arrival in England in 1682. He was ignorant that she had adopted the Roman Catholic religion; and, when he discovered it, he used every measure in his power to induce her return to the Protestant faith without effect. Tillotson laments her case on that account, and even was afraid of the influence she might have upon her husband. But Mr. Nelson's religion was too much the result of his reason to be shaken by his love, which was equally steady. Her change of religion made no change in his affection for her; and, when her ill health obliged her to go to the waters of Aix, he attended her thither in 1688: and took a second trip to Italy, with her, her son and daughter. He returned through Germany to the Hague, where he staid some time with lord Dursley, who was married to his wife's sister. He arrived in England in the end of 1691, where, being averse to the Revolution, he declared himself a nonjuror. Upon the death of archbishop Tillotson, who expired in his arms in 1694, Mr. Nelson was very instrumental in procuring his widow's pension from the crown to be increased from £400 to £600 per annum. Among his new nonjurant connexions was Mr. Kettlewell, who had resigned his living at Coleshill in Warwickshire, on account of the oaths, and resided in London. By his advice Mr. Nelson published many works of piety, which are deservedly esteemed; while Mr. Nelson encouraged Kettlewell to prosecute some works which otherwise would not have seen the light. At the same time he engaged zealously in every public scheme for promoting the honor and interest, as well as the faith and practice, of true Christianity, at home and abroad; besides schemes for building, repairing, and endowing churches and charity schools. Upon the death of Dr. William Lloyd, the deprived bishop of Norwich, in the end of 1709, he, by the advice of Dr. Kenn, returned to the communion of the church of England. Mr. Nelson's tutor, Dr. George Bull, bishop of St. David's, dying this year, he was prevailed upon by that prelate's son to draw up an account of his father's life and writings. It was published in 1713; and, as our author had long before labored under an asthma and dropsy in the breast, the distemper grew to such a height, that, for the benefit of the air, he retired at length to Kensington, where he expired on the 16th of January, 1715, aged fifty-nine. He published several works of piety, and left his whole estate to pious uses, particularly to charity schools.

NELSON (Horatio), lord viscount, was born in 1758 at Burnham Thorpe in Norfolk, of which parish his father Edmund was rector. He was educated at the school of North Walsham; but we know nothing particular of his boyish years, nor have we any detail of the nature and progress of his studies. He left school at the early age of twelve; and, having displayed a strong disposition for the sea service, he was rated a midshipman on board the *Raisonné* of sixty-four guns, commanded by his maternal uncle, captain Maurice Suckling. In April, 1773, in

consequence of an application by the Royal Society to the earl of Sandwich, a voyage of discovery to the north pole was ordered, under the honorable Constantine John Phipps, afterwards lord Mulgrave. By the instructions issued on this occasion boys were strictly prohibited from being received on board. But the enterprising mind and earnest entreaty of young Nelson enabled him to surmount this difficulty, and he was actually appointed cockswain to captain Lutwidge.

In October, when the ship returned, a squadron was fitting out for the East Indies. Nelson used every effort to be appointed to one of the ships, and again succeeded. He was stationed in the foretop to keep watch on board the Seahorse of twenty guns, captain Farmer, by whom he was soon after removed to the quarter-deck. He was passed lieutenant on the 8th of April, 1777, and on the 9th had a commission as second lieutenant of the Lowestoffe of thirty-two guns, captain Locker, in which situation he reached Jamaica. Here, feeling his professional efforts circumscribed, he entreated the command of a schooner which attended the Lowestoffe as a tender. He obtained his request, and availed himself of it to acquire a practical knowledge of all the intricate passages through the islands lying to the north of Hispaniola. When Sir Peter Parker arrived on the Jamaica station, in 1778, he appointed Nelson to be third lieutenant of his own ship the Bristol, in which ship he rose to be first lieutenant, and in which he terminated his services in that subordinate rank. On the 11th of June, 1779, he was made post-captain, and was soon after appointed to the command of the *Hinchinbroke*; and, in expectation of an attack on Jamaica, the command of the batteries of Port-Royal was entrusted to him. In January, 1780, it was determined to reduce fort Julia, on the river St. John, in the gulf of Mexico. To captain Nelson was entrusted the command of the naval department, and to major Polson that of the military, in this arduous and interesting undertaking. Nelson on this occasion displayed his usual sagacity and intrepidity. He quitted his ship, and directed and superintended the transporting of the troops, in boats, for the space of 300 miles up a river which none but Spaniards had ever ventured to navigate since the time of the Buccaneers; and to his gallantry, skill, and conduct, the success of the expedition is chiefly to be attributed. He was afterwards appointed to the *Janus*, on the Jamaica station. He was obliged to return to England on account of bad health, and was appointed to the command of the *Albemarle* in August 1781; which being stationed, in the following winter, in the North seas, was a severe trial to his feeble constitution. In October, 1782, he joined the fleet under Sir Samuel Hood, and was actively and honorably employed in the West Indies till the end of the war. In the autumn following he went to France, where he continued till the spring of 1784; at which time he was appointed to the command of the *Boreas* frigate, of twenty-eight guns, on the Leeward Islands station. Here he continued till June 1787. In the month of March that

year he married the widow of Dr. Nesbit, of the island of Nevis, with whom (on his ship being paid off in November) he retired to his father's parsonage in Norfolk. In 1793 he got the command of the *Agamemnon*, of sixty-four guns, stationed in the Mediterranean, under lord Hood; who reposed the most unlimited confidence, as well in his talents as in his courage. Whatever difficult enterprise lord Hood thought necessary, the conduct of it was entrusted to Nelson. At Toulon, Bastia, and Calvi, he increased his well-earned reputation; and lord Hood did not fail to record the striking progress of his increasing fame. At the siege of Calvi Nelson lost the sight of his right eye, a quantity of sand having been driven with violence against his face by a shot from the enemy striking the battery which he commanded. He equally enjoyed the confidence and esteem of admiral Hotham, who succeeded lord Hood, and eminently distinguished himself in the actions which took place with the French fleet on the 13th and 14th of March, on the 13th of July 1795, and in co-operating with general De Vins on the coast of Genoa. When admiral Hotham was superseded by Sir John Jervis, Nelson received the well-merited honor of a pendant of distinction, and quitted the *Agamemnon* for the *Captain* of seventy-four guns, with the title of commodore. He was for several months continually employed in the very active and arduous service of the blockade of Leghorn, the taking of Porto Ferrajo, with the island of Caprea, and, finally, in the evacuation of Bastia; and though it does not appear that his services acquired the reputation in his own country which they merited, and which he expected, it is now certain that he did more at this very period to illustrate the British character, and extend the British influence in Italy, than any other individual at that active and difficult period. In December 1796 he hoisted his pendant on board *La Minerva* frigate, and was despatched along with *La Blanche* to Porto Ferrajo, to bring the naval stores left there to Gibraltar. In the course of this service he took a large Spanish frigate of forty guns, after a long and severe action. He contributed essentially to the great and important victory gained, with a very inferior force, over the Spanish fleet by Sir John Jervis, on the 14th of February 1797; and in April that year he was raised to the rank of rear admiral of the blue. In May he shifted his flag from the *Captain* to the *Theseus*, and was appointed to command the inner squadron in the blockade of Cadiz. In the attack on the Spanish gun-boats in July, he was boarded in his barge (having only ten men and the coxswain) by an enemy's boat with thirty men and officers. The conflict was long, terrible, and doubtful, eighteen of the Spaniards were killed; and the remainder, almost all wounded, at length yielded to a force still numerically inferior. On the 15th of July, in the same year, he made an unsuccessful attack on Santa Cruz in Teneriffe; but such were his conduct and intrepidity, that, though he lost his arm by a cannon shot, he succeeded, where most others would have failed, in compelling the Spaniards to allow him to re-embark without molestation. He was detached by lord St. Vincent, in 1798, with twelve sail of the line and one ship

of fifty guns, in pursuit of the French, to the coast of Egypt, whose fleet consisted of thirteen sail of the line, four frigates, and several gun-boats, besides being protected by land batteries. This fleet he attacked at sun-set on the 1st of August, took nine sail of the line, and destroyed two; two only escaped, and they were afterwards taken. He was wounded in the head, as he thought himself mortally, and displayed uncommon calmness and fortitude in that conviction whilst it lasted, making his last arrangements with equal decision and tranquillity. To the great joy of the fleet the wound was found not to be mortal. He had received the honor of the red riband in consequence of his conduct in the action off Cape St. Vincent. He was raised to the honor of the peerage in consequence of this at Aboukir, by the style and title of baron Nelson of the Nile and Aboukir, and of Burnham Thorpe, in the county of Norfolk. He was also created duke of Bronte by the king of Naples, with an estate of £3000 sterling a year. He had also conferred upon him an order of knighthood by the king of Naples, by the grand seignior, and by the emperor of Russia. On the 2d of April, 1802, he conducted the attack upon Copenhagen, where in circumstances of peculiar difficulty, and without having the chief command, he effectually destroyed that formidable northern confederacy which threatened the ruin of this country. In this transaction he not only displayed his usual gallantry and naval skill, but that profound sagacity, that intimate knowledge of human nature, and of the political relations and interests of his country, with that accurate calculation of the impression of events on the human mind, which we should scarcely have anticipated in a man so wholly devoted to professional pursuits. In consequence of this victory he was raised to the rank of viscount in the British peerage. His next service was the restoration of the king of Naples, which, impartiality compels us to state, was accompanied with circumstances of cruelty very discreditable to his character, and which may be attributed to the pernicious influence of lady Hamilton, the wife of the English ambassador, over his mind. His attachment for this lady whom he took as his mistress, after the death of her husband, occasioned his separation from lady Nelson on his return to England.

One of the most important services which lord Nelson performed to his country, though unattended by any thing brilliant, was his pursuit of the combined fleets of France and Spain to the West Indies, which engaged him for four months, which defeated, by the very terror of his name, the object of the combined squadron, and led to the victory gained by Sir Robert Calder in 1805. On the 21st of October, this same year, his last action was fought, and his most active and useful life closed, with a brilliancy which has never been surpassed. The moment he saw the combined fleet, superior in point of number to his own by six ships, and much superior in point of men and guns even to what that proportion at first indicated, he made his arrangements with his usual skill, and his calculation of success with that decision of mind, by which, in his naval

combinations, he seems to have surpassed alike his predecessors and his contemporaries. His last signal (which doubtless produced an indescribable vibration in every breast, and which was so admirably fulfilled), will, we trust, never be forgotten by his grateful country, 'ENGLAND EXPECTS EVERY MAN TO DO HIS DUTY.' Twenty-one ships of the line were taken or destroyed, and every circumstance combined to confer on this astonishing victory the utmost possible importance. Yet we believe the sensation was universal throughout the country that it was too dearly purchased; and even the enemy felt some consolation under his disaster, in reflecting, that he to whom it was due had fallen in the glorious enterprise. He lived three hours after his fatal wound; and, though he suffered very severely, his heroism continued to the last, and he gave directions respecting the management of the fleet and prizes till within a few instants of his dissolution. He had, previous to this, £3000 sterling a-year voted by parliament for his own life, and that of his two next heirs; a present from the East India Company of £10,000 sterling; a diamond aigrette from the grand seignior worth £4000 sterling; a diamond box from the emperor of Russia worth £2500 sterling; presents from the king of Naples, besides the estate of Bronte, worth £5000 sterling; furnishing many effectual proofs that his character was justly esteemed in every part of Europe as well as in his own country. After the battle of Trafalgar his body was brought home in the Victory, which bore his flag, and in which he fell. He was buried at the public expense, and in the most splendid manner, under the dome of St. Paul's cathedral in London, where a monument was ordered to be erected to his memory. His heir was raised to the rank of an earl in the peerage; and, with a bounty becoming a great and grateful country, parliament voted a sum of money for the purchase of an estate for his heirs; and splendid monuments, proofs of the public feeling, have been erected throughout the empire, by voluntary contribution, to perpetuate his memory, which will never die, and his country's gratitude, which will never be forgotten, while that country (so long and so justly dear to every great and liberal mind) shall deserve to exist.

Dr. Southey having ably reviewed the published biography of Nelson, in the Quarterly, gave to the world in 1813 an interesting, and on the whole candid and creditable, 'Life' of our hero, which he aimed, as he says, to make 'clear and concise enough to become a manual for the young sailor, which he may carry about with him till he has treasured up the example in his memory and in his heart.' 'In attempting such a work,' continues the author, 'I shall write the eulogy of our great naval hero: for the best eulogy of Nelson is the faithful history of his actions; the best history that which shall relate them most perspicuously.' (Preface, p. i.)

A few anecdotes, in the able manner of our biographer, will not, we are well assured, be uninteresting to our readers.

We are told that one day in his mere childhood, when he had lost himself on an excursion to plunder birds'-nests, he was, after a long search,

discovered alone, sitting composedly by the side of a brook, which he could not get over. 'I wonder,' said his grandmother, 'that hunger and fear did not drive you home.' 'Fear! grand-mamma,' said he, 'I never saw fear; what is it?'

There is something very touching, and that may be really useful to young men entering upon any arduous state in life, in the following picture of the difficulties attending the hero's first step into his profession:—

'Early on a cold and dark spring morning Mr. Nelson's servant arrived at this school at North Walsham with the expected summons for Horatio to join his ship. The parting from his brother William, who had been for so many years his playmate and bed-fellow, was a painful effort, and was the beginning of those privations which are the sailor's lot through life. He accompanied his father to London. The Raisonnable was lying in the Medway. He was put into the Chatham stage, and on its arrival was set down with the rest of the passengers, and left to find his way on board as he could. After wandering about in the cold, without being able to reach the ship, an officer observed the forlorn appearance of the boy, questioned him, and, happening to be acquainted with his uncle, took him home, and gave him some refreshments. When he got on board, captain Suckling was not in the ship, nor had any person been apprised of the boy's coming. He paced the deck the whole remainder of the day, without being noticed by any one; and it was not till the second day that somebody, as he expressed it, 'took compassion on him.' The pain which is felt when we are first transplanted from our native soil—when the living branch is cut from the parent tree—is one of the most poignant which we have to endure through life. There are after-griefs which wound more deeply, which leave behind them scars never to be effaced, which bruise the spirit, and sometimes break the heart: but never, never, do we feel so keenly the want of love, the necessity of being loved, and the sense of utter desertion, as when we first leave the haven of home, and are, as it were, pushed off upon the stream of life. Added to these feelings, the sea-boy has to endure physical hardships, and the privation of every comfort, even of sleep. Nelson had a feeble body and an affectionate heart, and he remembered through life his first days of wretchedness in the service.'

Our readers must laugh outright, however, when they peruse the following recipe prescribed by the historian of Methodism, as the tonic by which the 'glow of patriotism' is to be for ever kept alive in the bosoms of our naval commanders. He reports the young Nelson to have thus spoken of himself:—'After a long and gloomy reverie, in which I almost wished myself overboard, a sudden glow of patriotism was kindled within me, and presented my king and country as my patron. Well then, I exclaimed, I will be a hero! and, confiding in Providence, I will brave every danger.' Long afterwards, says Dr. Southey, Nelson loved to speak of the feeling of that moment; and from that time he often said a radiant orb was suspended in his mind's eye, which urged him onward to renown:—

and, again, he declares that Nelson always seemed willing to believe that the sunshine which succeeded bore with it a prophetic glory; and that the light which led him on was light from heaven. Now we must frankly declare that we do not believe that lord Nelson ever seriously intended to refer the origin of his actions to principles of mysticism so extremely absurd, ridiculous, and enthusiastic. And we know not which most to admire, Dr. Southey's simplicity in contrasting their rationality with the reveries he is pleased to impute to 'the mystics,' or his deficiency of judgment in supposing that the contrast would afford matter for the edification of 'the young sailor.' Our biographer, in fact, should have recollected that there are passages, lamentable passages, in the Life of Lord Nelson, which require in a faithful historian of his younger days (particularly in one who writes for the benefit of youth) a more than ordinary caution in investigating the deficiencies of his early principles. The following picture of his person and manners as they existed in 1782 is interesting;—as connecting him with his present majesty, who is said to have ever after considered him as an intimate friend.

'His professional merit was already well known: and lord Hood, on introducing him to Prince William Henry, as the duke of Clarence was then called, told the prince, if he wished to ask any questions respecting naval tactics, captain Nelson could give him as much information as any officer in the fleet. The duke, who, to his own honor, became from that time the firm friend of Nelson, describes him as appearing the merest boy of a captain he had ever seen, dressed in a full laced uniform, and old fashioned waistcoat with long flaps, and his lank unpowdered hair tied in a stiff Hessian tail of extraordinary length; making, altogether, so remarkable a figure, 'that,' says the duke, 'I had never seen any thing like it before; nor could I imagine who he was, nor what he came about. But his address and conversation were irresistibly pleasing; and, when he spoke on professional subjects, it was with an enthusiasm that showed he was no common being.' It was expected that the French would attempt some of the passages between the Bahamas: and lord Hood, thinking of this, said to Nelson, 'I suppose, Sir, from the length of time you were cruising among the Bahama Keys, you must be a good pilot there.' He replied, with that constant readiness to render justice to every man which was so conspicuous in all his conduct through life, that he was well acquainted with them himself, but that in that respect his second lieutenant was far his superior.' (p. 46).

Of his first great wound in the unsuccessful attack upon Teneriffe we have the following account:—'In the act of stepping out of the boat, Nelson received a shot through the right elbow, and fell; but, as he fell, he caught the sword, which he had just drawn, in his left hand, determined never to part with it while he lived; for it had belonged to his uncle, captain Suckling, and he valued it like a relic. Nisbet, who was close to him, placed him at the bottom of the boat, and laid his hat over the shattered arm, lest the sight of the blood, which gushed out in

great abundance, should increase his faintness. He then examined the wound; and, taking some silk handkerchiefs from his neck, bound them round tight above the lacerated vessels. Had it not been for this presence of mind in his son-in-law, Nelson must have perished. One of his bargemen, by name Lovell, tore his shirt into shreds, and made a sling with them for the broken limb. They then collected five other seamen, by whose assistance they succeeded, at length, in getting the boat afloat; for it grounded with the falling tide. Nisbet took one of the oars, and ordered the steersman to go close under the guns of the battery, that they might be safe from its tremendous fire. Hearing his voice, Nelson roused himself, and desired to be lifted up in the boat, that he might look about him. Nisbet raised him up; but nothing could be seen, except the firing of the guns on shore, and what could be discerned by their flashes upon the stormy sea. In a few minutes, a general shriek was heard from the crew of the Fox, which had received a shot under water, and went down. Ninety-seven men were lost in her; eighty-three were saved, many by Nelson himself, whose exertions on this occasion greatly increased the pain and danger of his wound. The first ship which the boat could reach happened to be the Sea-horse; but nothing could induce him to go on board, though he was assured that, if they attempted to row to another ship, it might be at the risk of his life. 'I had rather suffer death,' he replied, 'than alarm Mrs. Freemantle, by letting her see me in this state, when I can give her no tidings whatever of her husband.' They pushed on for the Theseus. When they came along-side, he peremptorily refused all assistance in getting on board, so impatient was he that the boat should return, in hopes that it might save a few more from the Fox. He desired to have only a single rope thrown over the side, which he twisted round his left hand, saying, 'Let me alone: I have yet my legs left, and one arm. Tell the surgeon to make haste and get his instruments. I know I must lose my right arm; so the sooner it is off the better.' The spirit which he displayed in jumping up the ship's side astonished every body.' (p. 188).

In justice to our historian we must add his sentiments on the only public stain in Nelson's conduct. After the brilliant victory of the Nile, the French having taken possession of Naples, and established a republic on the ruins of the former monarchy, the dormant spirit of loyalty began to revive, and measures were taken for a counter revolution. 'In these lord Nelson concurred with an enthusiastic zeal, and sent captain Trowbridge to cruise in the bay of Naples, and reduce the islands by which it is surrounded. On the 24th of June, 1799, his lordship himself arrived in the bay, when the republicans had just entered into an armistice with the Neapolitan general Ruffo, signed by commodore Foote and the Turkish and Russian commanders, for the castles, which alone remained in their possession. But the king of Naples, in this prosperous state of his affairs, was induced to disavow the authority of the cardinal to treat with subjects in rebellion and lord Nelson immediately put an

end to the truce. The fortresses were afterwards obliged to capitulate, and a bloody execution, in spite of the treaty, took place of a number of the Neapolitan republicans, under the eye of the British admiral. For this part of lord Nelson's conduct much has been said by his panegyrists; but it is not, and cannot be, justified. He submitted to be subservient to the passions of the court, and this, perhaps, the more readily, as his own prejudices and passions were all on the same side. That we have not spoken too strongly on this subject is evident from the vindication of commodore Foote, who shall speak for himself:—'Nothing,' says this much injured and insulted officer, 'can be more evident than the fact that a solemn capitulation had been agreed upon, formally signed by the chief commander of the forces of the king of Naples, by the Russian commander, and by myself, all duly authorised to sign any capitulation in the absence of superior powers. This was not a treaty of peace, subject to ratification: it was not liable to be broken; it was a serious agreement for surrender, upon terms which involved the lives and properties of men, who might have chosen to forfeit those lives and properties, had they not relied principally upon the faith of a British officer. Parts of the agreement were performed, and actual advantage was afterwards taken of those parts of the capitulation that had been thus executed, to seize the unhappy men who, having been thus deceived by a sacred pledge, were sacrificed in a cruel and despotical manner. 'These facts,' says Dr. Sonthey, 'are certain, and undeniable. They cannot be defended; they cannot be excused; they cannot by any sophistry be palliated. A faithful historian has no alternative but to relate them with shame and sorrow.'

We will not pursue the baneful influence of the witchery which now began to be practised upon the affections of this great commander in the person of lady Hamilton;—an influence which led to the degradation of his moral character; and which attacked his fame and honor where alone they were assailable: we confine the rest of our sketch to the circumstances connected with the battle of Copenhagen, and the attack on Boulogne. The following are *Original Letters* on the subject of the former, which have only appeared in a discontinued periodical. They were addressed at the period of their respective dates to a person of official rank in England.

(*Original, Letter I.*)

St. George, April 4th, 1801,
Copenhagen Roads.

MY DEAR SIR,

'It was by your own desire that I trouble you with a letter, after having tried the contest afloat with Denmark, I shall not trouble you with a history of battles: suffice it to say, as far as we could, we have, by the blessing of God, been completely victorious. Circumstances threw me in the way of communicating with the prince regent of Denmark, and it has led to some messages passing between the shore and Sir Hyde Parker. I own I do not build much hopes on the success of negotiation, as it appears

clearly to me, that Denmark would at this moment renounce all her alliances to be friends with us, if fear was not the preponderating consideration. Sir Hyde Parker thought that probably some good might arise if I went on shore to converse with his royal highness; I therefore went yesterday at noon, dined in the palace, and after dinner had a conversation of two hours alone with the prince; that is, no minister was present; only his adjutant-general Lindholm was in the room. His royal highness began the conversation by saying how happy he was to see me, and thanked me for my humanity to the wounded Danes. I then said, 'It was to me, and would be the greatest affliction to every man in England, from the king to the lowest person, to think that Denmark fired on the British flag, and became leagued with her enemies.' His royal highness stopped me by saying that Admiral Parker had declared war against Denmark: this I denied, and requested his royal highness to send for the papers, and he would find the direct contrary; and that it was the furthest from the thoughts of the British admiral. I then asked if his royal highness would permit me to speak my mind freely on the present situation of Denmark? In which he having acquiesced, I stated to him the sensation which was caused in England by such an unnatural alliance with the furious enemies of England. His answer was, 'that when he made the alliance it was for the protection of their trade; that Denmark would never be the enemy of England, and that the emperor of Russia was not the enemy of England when this treaty was formed: that he never would join Russia against England; and his declaration to that effect was the cause of the emperor's (I think he said) sending away his minister; that Denmark was a trading nation, and had only to look to the protection of its lawful commerce.' His royal highness then enlarged on the impossibility of Danish ships under convoy having on board any contraband trade; but to be subjected to be stopped, even a Danish fleet, by a pitiful privateer, and that she should search all the ships, and take out of the fleet any vessels she might please, was what Denmark could not permit. To this my answer was simply, 'what occasion for convoy to fair trade?' To which he answered, 'that no commander could tell what contraband goods might be in his convoy.' I then said, 'suppose that England (which she never will), were to consent to this freedom of navigation, I will tell your royal highness what the result would be—ruin to Denmark; for her present commerce with the warring powers is half the neutral carrying trade; and any merchant in Copenhagen would tell your royal highness that if all this freedom were allowed, Denmark would not have more than the sixth part: for that the state of Pappenburgh was as good as Denmark in that case, and would soon say—We will not be stopped in the sound, our flag is our protection: and Denmark would then lose a great source of her present revenue, and the Baltic would soon change its name to the Russian Sea.' He said this was a delicate subject; to which I re-

plied, that his royal highness had permitted me to speak out.

'He then said, 'Pray answer me a question; for what is the British fleet come into the Baltic?' My answer, 'to meet a most formidable and unprovoked coalition against Great Britain.' He then went on to say, 'that his uncle had been deceived; that it was a misunderstanding; and that nothing should ever make him take part against Great Britain; for that it could not be his interest to see us crushed, nor, he trusted, ours to see him crushed.' To this I acquiesced. I then said 'there could not be a doubt of the hostility of Denmark; for, if her fleet had been joined with Russia and Sweden, they would assuredly have gone into the North Sea, menaced the coast of England, and probably have joined the French if they had been able.' His royal highness said, his ships never should join any power against England; but it required not much argument to satisfy him he could not help it. Speaking of the pretended union of the northern powers, I could not help saying, 'that his royal highness must be sensible that it was nonsense to talk of a mutual protection of trade with a power who had none; and that he must be sensible that the Emperor of Russia would never have thought of offering to protect the trade of Denmark, if he had not had hostility against Great Britain.' He said repeatedly, 'I have offered to-day, and do offer, my mediation between Great Britain and Russia.'—My answer was, 'A mediator must be at peace with both parties; you must settle your matter with Great Britain at present; you are leagued with our enemies, and are considered naturally as a part of the effective force to fight us.' Talking much on this subject, his royal highness said, 'What must I do to make myself equal?'—A. 'Sign an alliance with Great Britain, and join your fleet to ours.'—H. R. II. 'Then Russia will go to war with us, and my desire, as a commercial nation, is to be at peace with all the world.' I told him, 'he knew the offer of Great Britain, either to join us or disarm.' 'Pray, lord Nelson, what do you call disarming?' My answer was, 'that I was not authorised to give an opinion on the subject, but I considered it as not having on foot any force beyond the customary establishment.' 'Do you consider the guardships in the Sound as beyond that common establishment?' 'I do not.' 'We have always had five sail of the line in the Cattegat and coast of Norway.' 'I am not authorised to define what is exactly disarming; but I do not think such a force will be allowed.'—H. R. II. 'When all Europe is in such a dreadful state of confusion, it is absolutely necessary that states should be on their guard.'—'Your royal highness knows the offer of England, to keep twenty sail of the line in the Baltic.' He then said, 'I am sure my intentions are very much misunderstood.' To which I replied, 'that Sir Hyde Parker had authorised me to say, that upon certain conditions his royal highness might have an opportunity of explaining his sentiments at the court of London. I am not authorised to say on what conditions exactly.' 'But what do you think?'

'First, a free entry of the British fleet into Copenhagen, and the free use of every thing we may want from it—' before I could get on he replied quick—'That you shall have with pleasure.' 'The next is, whilst this explanation is going on, a total suspension of your treaties with Russia. These I believe are the foundations on which Sir Hyde Parker only can build other articles for his justification in suspending his orders, which are plain and positive.' His royal highness then desired me to repeat what I had said, which having done, he thanked me for my open conversation, and having made an apology if I had said any thing which he might think too strong, his royal highness very handsomely did the same, and we parted; he saying, 'that he hoped we would cease from hostilities to-morrow: on such an important occasion he must call a council.' My reception was such as I have always found it, far beyond my deserts. I saw —— Count Bernstoff for a moment, and could not help saying he had acted a very wrong part, in my opinion, in involving the two countries in the present melancholy situation, for that our countries ought never to quarrel. I had not time to say more, as the prince sent for me, and count Bernstoff was called the moment I came out of the room. The king's brother and his son desired I might be presented to them, which I was, and then returned on board. Yesterday evening I received from general-adjutant Lindholm the English papers to March 24th, with a hope that what I had said to the prince would make peace. I find all the country hate both the Russians and Swedes. Again begging your pardon for this long letter, I will only add that I am ever your most obliged,

NELSON and BRONTE.'

(Original, Letter II).

St. George, April 9th, 1801.

'MY DEAR SIR,

'Negotiation is certainly out of my line; but, being thrown into it, I have endeavoured to acquit myself as well as I was able. I trust you will take into consideration all the circumstances which have presented themselves to my view. 1. We have beat the Danes. 2. We wish to make them feel that we are their real friends; therefore have spared their town, which we can always set on fire: and I do not think if we burnt Copenhagen it would have the effect of attaching them to us; on the contrary, they would hate us. 3. They understand perfectly that we are at war with them for their treaty of armed neutrality made last year. 4. We have made them suspend the operations of that treaty. 5. It has given our fleet free scope to act against Russia and Sweden, which we never should have done although Copenhagen had been burned; for Sir Hyde Parker was determined not to leave Denmark hostile in his rear. 6. Our passage over the ground might have been very seriously interrupted by the batteries near Draco. 7. Every reinforcement, even a cutter, can join us without molestation; and also provisions, stores, &c. 8. Great Britain is left with the stake of all the Danish property in her hands, her colonies, &c. if she refuses peace. 9. The

hands of Denmark are tied, ours are free to act against her confederate allies. 10. Although we might have burnt the city, I have my doubts whether we could their ships. All these considerations weighed deeply in my mind, added to which, we have shown them that it was not because we feared fighting them that we negotiated, but for the cause of humanity towards Denmark, and the wish to conciliate their affections. All these matters have affected my mind, nor shall I have a moment's rest till I know at least that I am not thought to have done mischief. After we had forced the expression of the suspension of the treaty of armed neutrality, a point very difficult for fear of Russia, I said to the prince—'Now, Sir, this is settled, suppose we write peace instead of armistice?' To which he replied—'That he should be happy to have a peace, but he must bring it about slowly, so as not to make new wars.' He asked, 'whether some method could not be thought of to prevent the mortifications to which ships of war with convoy were liable by being stopped?' To which I answered 'I thought there might very easily.' I did not enter further on the subject with him, although I did to his adjutant-general of the fleet, Lindholm, who seems much in his confidence.

'My idea is, that no convoys shall be granted to any vessels bound to ports at war with us; and that, if any such convoy is granted, it shall be considered as an act of hostility. And that, if any vessel under convoy proceeds to an enemy of England's port, the owner shall lose the value of his ship and cargo, and the master be severely punished. On these foundations I would build a prevention against future disputes. But all these matters I leave to wiser heads; and shall only assure you that I am truly, with the greatest respect, your most faithful and obedient servant,

NELSON and BRONTE.

'I have the pleasure to tell you that count Bernstoff was too ill to make me a visit yesterday; I had sent him a message to leave off his ministerial duplicity, and to recollect he had now British admirals to deal with, who came with their hearts in their hands. I hate the fellow.

'Colonel Stewart, a very fine gallant man, will give you every information.'

(Original, Letter III.)

St. George, May 5th, 1801.

'MY DEAR SIR,

'I feel very much flattered by your truly kind letter, and also for the kind expressions you were so good as to send me by colonel Stewart. I am sorry that the armistice is only approved under all considerations. I own myself of opinion that every part of the all was to the advantage of our king and country. I stated many of my reasons for thinking it advantageous. We knew not of the death of Paul, or change of sentiment in the court of Prussia, if her sentiments are changed: my object was to get at Revel before the frost broke up at Cronstadt, that the twelve sail of the line might be destroyed. I shall now go there as a friend, but the two fleets shall not

form. a junction, if not already accomplished, unless my orders permit it. My health is gone, and although I should be happy to try and hold out a month or six weeks longer, yet death is no respecter of persons. I own at present I should not wish to die a natural death; but to the last believe me, dear Sir,

Yours, &c.,

NELSON and BRONTE.'

Nelson was indefatigable in placing the circumstance of the flag of truce in its true light.

'Many,' says he, 'thought it was a ruse de guerre, and not quite justifiable; my enemies, I believe, attributed it to a desire to have no more fighting, and few, very few, to the cause that I felt, and which I trust in God I shall retain till the last moment, humanity. When my flag of truce went on shore, the crown batteries and the batteries on Amak were firing at us, one half of their shot necessarily striking their own ships which had surrendered, and our own fire did the same and worse; for the surrendered ships had four of them got close together—it was a massacre. This caused my note. It was a sight which no real man could have enjoyed. I felt when the Danes became my prisoners I became their protector, &c. As to the armistice, I looked upon the northern league to be like a tree, of which Paul is the trunk, and Sweden and Denmark the branches. If I can get at the trunk and hew it down, the branches will fall of course: but I may lop the branches, and yet not be able to fell the tree; and my power must be weaker when its greatest strength is required. If we could have cut up the Russian fleet, that was my object. Denmark and Sweden deserved whipping—but Paul deserved exemplary punishment. I own I consider the armistice as a wise measure; and I wish my reputation to stand upon its merits.'—MS. letter. In the cover enclosing these reasons he writes—'If you and some other friends approve, I care not: I have dispersed the reasons to several hands, for I feel hurt. Trusting that God Almighty will allow me to present myself at your door, I am, &c.'—MS. letter.

The unsuccessful attempt upon the flotilla at Boulogne was the next service performed by lord Nelson. The following letter, written during a bombardment a few days before the principal attempt, contains his opinion of the formidable flotilla.

(Original, Letter IV.)

Medusa, off Boulogne, August 4th, 1801.

MY DEAR SIR,

'I think I may venture to assure you that the French army will not embark at Boulogne for the invasion of England. They are suffering this morning from allowing a collection of craft to be assembled in their port. Five vessels of different descriptions are sunk on the outside the pier by our shells. They were all filled with heavy guns, and full of men: what damage has taken place inside the pier cannot be ascertained; but judging from the outside we may suppose it considerable.

Ever, my dear Sir, yours, &c.,

NELSON and BRONTE.'

'The people of England,' as Dr. Southey eloquently remarks, 'grieved that funeral ceremonies, public monuments, and posthumous rewards were all which they could bestow on him whom the king, the legislature, and the nation would alike have delighted to honor; whom every tongue would have blessed; whose presence in every village, through which he might have passed, would have wakened the church bells, have given school-boys a holiday, have drawn children from their sports to gaze upon him, and old men from their chimney corner to look upon Nelson ere they died.'

NEMEA, in ancient geography, a village, town, or district, situated between Cleonæ and Philus in Argolis, where a grove stood in which the Argives celebrated the Nemean games, and where all the fabulous circumstances of the Nemean lion were believed to have happened. The district Nemea is called Bembinadia by Pliny; a village, Bembina, standing near Nemea (Strabo). Stephanus places Nemea not in Elis, but on its borders; Pliny, erroneously, in Arcadia. In the adjoining mountain is still shown the den of the lion, fifteen stadia from the place Nemea (Pausanias); in which stands a considerable temple of Jupiter Nemæus and Cleonæus, so named from the vicinity of these two places. This place gave name to the Nemæan games.

NEMEAN GAMES, so called from Nemea, where they were celebrated every third year. The exercises were chariot races, and all the parts of the pentathlon. These games were instituted in memory of Opheltes or Archemorus, the son of Lycurgus and Creusa, who was nursed by Hypsipyle; who leaving him in a meadow while she went to show the besiegers of Thebes a fountain, at her return found him dead, and a serpent twined about his neck; whence the fountain, before called Langia, was named Archemorus; and the captains, to comfort Hypsipyle, instituted these games. Others ascribe the institution to Hercules, after his victory over the Nemean lion. Others allow that they were instituted first in honor of Archemorus; but intermitted, and revived again by Hercules. The victors were crowned with parsley, a herb used at funerals, and feigned to have sprung from Archemorus's blood. The Argives presided at these games.

NEMESIANUS (Aurelius Olympius), a Latin poet, born at Carthage, and flourished about A. D. 281, under the emperors Carus, Carinus, and Numerian: the last of whom was so fond of poetry that he contested the glory with Nemesianus, who had written a poem upon fishing and maritime affairs. There are still extant a poem of our author called Cynegeticon, and four eclogues: they were published by Paulus Manutius in 1538; by Barthelet in 1613; at Leyden in 1653, with the notes of Janus Vlitias. Giraldi has preserved a fragment of Nemesianus, which was communicated to him by Sannazarius. Although this poem has acquired some reputation, it is greatly inferior to those of Oppian and Gratian upon the same subject; yet Nemesian's style is natural, and has some degree of elegance. His poem in the eighth century was so much esteemed, that it was read among the classics in

the public schools, particularly in the time of Charlemagne, as appears from a letter of the celebrated Hincmar bishop of Rheims to his nephew Hincmar of Laon.

NEMESIS, in Pagan mythology, the daughter of Jupiter and Necessity, or, according to others, of Oceanus and Nox, who had the care of avenging the crimes which human justice left unpunished. She was also called Adrastæa, because Adrastus king of Argos first raised an altar to her; and Rhamnusia, from her having a magnificent temple at Rhamnus in Attica.—She had likewise a temple at Rome in the capitol. She is represented with a stern countenance, holding a whip in one hand and a pair of scales in the other.

NEMESIUS, a Greek philosopher who embraced Christianity, and was made bishop of Emesa in Phœnicia, where he was born; he flourished in the beginning of the fifth century. We have a piece by him, entitled *De Naturâ Hominis*, in which he refutes the fatality of the Stoics and the errors of the Manichees, the Apollinarians, and the Eunomians; but he espouses the opinion of Origen concerning the pre-existence of souls. This treatise was translated by Valla, and printed in 1535. Another version was made of it by Ellebodus, and printed in 1665; it is also inserted in the *Bibliotheca Patrum*, in Greek and Latin. A third edition was published at Oxford in 1671, folio, with a learned preface, wherein the editor endeavours to prove from a passage in this book that the circulation of the blood was known to Nemesius.

NEMINE CONTRADICENTE [Lat.] i. e. none contradicting it; a term chiefly used in parliament when any thing is carried without opposition; usually contracted into *nem. con.*

NEMOURS (Mary), of Orleans, an eminent French lady, daughter of the duke of Longueville, born in 1625. She wrote a spirited work, entitled *Memoirs of the war of the Fronde*; usually printed with Joli's works. She died in 1707.

NEN, or **NINE**, the chief river of Northamptonshire, which rises in the west part of it, is made navigable at Northampton, leaves the county at Peterborough, and, crossing the isle of Ely, forms part of the west boundary of Norfolk, and falls into the German Ocean, ten miles north of Wisbeach.

NENAGH, a post town of Ireland, in Tipperary, seventy-five miles from Dublin; situated on a branch of the Shannon which runs into Lough Derg. Here stand the ruins of an old castle, called *Nenaghrond*. Also those of an hospital founded in 1200 for canons of St. Augustine. In the reign of Henry III. a rich friary for conventual Franciscans was founded here. Here is a barrack for two troops of horse. This town was burnt on St. Stephen's day 1348, by the Irish. It has four fairs, and lies nineteen miles north-east of Limerick, and twenty-three north of Cashel.

NENIA, or **NÆNIA**, in ancient poetry, a kind of funeral song, sung to the music of flutes at the obsequies of the dead. Authors represent them as sorry compositions, sung by hired women-mourners called *Præficæ*. The first rise of these *Nenia* is ascribed to the physicians. The goddess of tears and funerals was called *NÆNIA*;

whom some suppose to have given that name to the funeral song, and others to have been named from it.

NENNIUS, an ancient British historian of the ninth century, who wrote a *History of Britain* in Latin. A MS. of this work is among the Cottonian MSS. in the British Museum.

NEOCÆSARIA, a town of Pontus on the south or left side of the Lycus. (Pliny.) About A. D. 342, when Leontius and Sallustius were consuls, it was entirely ruined by a dreadful earthquake, no edifice having withstood the violence of the shock, except the church and the bishop's habitation.

NEOGRAD, or **NOGRAD-VarMEGYE**, a county of north-west Hungary, between those of Hont and Heves. It is watered by the Ipoly, and borders on its south extremity on the Danube. Its area is 1647 square miles; population 164,000. The north part contains the cold mountain range of Karaut, and is comparatively unproductive. The south is level, mild, and fertile, abounding in corn, hemp, fruit (particularly melons), and wine; great numbers of cattle are also reared. The diets of this country assemble at Balassa-Gyarmath.

NEOMAGUS, according to Ptolemy, or **NOVIOMAGUS**, of Antonine's pillar; a town of the Regni in Britain; now thought to be Guildford in Surry, by Lhuyd; or Croydon, by Talbot. But Camden takes it to be Woodcote, two miles south of Croydon, where traces of an ancient town are still to be seen.

NEOMENIA, or **NOUMENIA**, a festival of the ancient Greeks, at the beginning of every lunar month, which, as the name imports, was observed upon the day of the new moon, in honor of all the gods, but especially Apollo, who was called *Neomenios*, because the sun is the fountain of light; and whatever distinction of times and seasons may be taken from other planets, yet they are all owing to him as the original of those borrowed rays by which they shine.—The games and public entertainments at these festivals were made by the rich, to whose tables the poor flocked in great numbers. The Athenians at these times offered solemn prayers and sacrifices for the prosperity of their country during the ensuing month. See **GAMES**.

NEOPHYTES, i. e. new plants, a name given by the ancient Christians to those heathens who had newly embraced the faith; such persons being considered as regenerated, or born a-new by baptism. The term has been also used for new priests, or those just admitted into orders, and sometimes for the novices in monasteries. It is still applied to the converts made by the missionaries among the infidels.

NEOPTOLEMUS, king of the Molossi, father of Olympias, and grandfather of Alexander the Great.

NEOPTOLEMUS, king of Epirus, uncle of the celebrated Pyrrhus, whom he attempted to poison, for which he was put to death.

NEOPTOLEMUS, one of Alexander's generals and relations; the first who climbed the walls of Gaza, when it was taken. After Alexander's death he was governor of Armenia; but was killed by Eumenes, A. A. C. 321.

NEOTERICK, *adj.* Lat. *neotericus*. Modern; novel; late.

We are not to be guided either by the misreports of some ancients, or the capricious of one or two *neotericks*. *Grew.*

NEPA, in zoology, a genus of insects belonging to the order of hemiptera. See ENTOMOLOGY. The rostrum is inflected; the antennæ are shorter than the thorax; and the hind feet are hairy, and fitted for swimming. There are several species. The four wings are folded together cross-wise, with the anterior part coriaceous. The two fore feet are cheliform, or resemble the claws of a crab; the other four are formed for walking. There are three of these species found in water, where they dwell, as do their larvæ and chrysalids. It is likewise in the water that we find the eggs of the water scorpion. Those eggs, of an oblong shape, have at one of their extremities two or more bristles or hairs. The insect sinks its egg into the stalk of a bull-rush or some other water plant, so that the egg lies concealed, and only the hairs or bristles stick out, and are to be seen. One may easily preserve in water those stalks loaded with eggs, and see the young water scorpions hatched under one's own roof, or at least their larvæ. These insects are voracious, and feed on other aquatic animals, which they pierce and tear with their sharp rostrum, while they hold them with the forceps of their fore-feet.—They fly well, especially in the evening and night, and they convey themselves from one pool to another, especially when that they are in begins to dry up. Mr. Geoffrey asserts, that the pedes cheliformes, or fore feet of the nepa, are the antennæ of the insect, which he says has but four feet.

NEPAL, or **NEPAUL**, a kingdom of Northern Hindostan, bounded on the north by the Himalaya range of mountains, on the south by the provinces of Bahar, Oude, and Delhi, on the east by Bootan, and Si Kim; and, previous to the late war with the British, extending west to the banks of the Suttelege. The kingdom was then divided into the provinces of Gorcah, Kyrat, Morung, Muckwany, Mockwanpore, Lemjung, twenty-four rajahs, Kemaon, and Almora. Nepal Proper, whence the kingdom takes its name, is nearly of an oval figure; its greatest length from north to south being twelve miles, by nine in greatest breadth. On the north and south it is bounded by lofty mountains, but to the east and west it is more open. This tract contains the capital Catamandoo, and is filled beside with populous villages. It enjoys almost a European climate, the mountains being covered with snow the whole year, and the valley much elevated. In some places it yields two crops in the year. The mountains contain copper and iron; and Nepal sends to Bengal timber, ivory, wax, honey, resin, bastard cinnamon, cardamums, walnuts, &c.; and receives muslins and silks of Bengal, carpets, spices, tobacco, and European goods.

The rajah is considered the proprietor of the soil, and his government is entirely despotic. The natives are in general a hardy race; and during a late war with the British displayed considerable courage. The prevailing religion is the

Hindoo, but many of the inhabitants are reckoned as impure descendants of the Tartars. The tribe called Newars admit of polyandry, or rather the women are at liberty to divorce their husbands and take others when they choose. The Brahmins are numerous here, and well skilled in Sanscrit learning. One of their libraries is said to contain 15,000 volumes. Five vernacular languages are spoken, but the Hindostany is generally understood.

The valley of Nepal is said to have been formerly a lake, which was drained by one of their divinities; and they have a long list of native princes. In the beginning of the fourteenth century, it is known that Hur Sing Deo, of the posterity of the Hindoo princes of Oude, entered Nepal with a large army, and subdued it, and that the crown continued in his family till 1768, when Purthi Narain, rajah of Goorca, united Nepal to Goorca. He died in 1771, and was succeeded for four years by his son Behadur Sah, who much extended his dominions. He was succeeded by a brother, Pertaub Sing; and the latter by his son rajah Run Behadur. During these reigns no less than forty-six petty chiefs are said to have been reduced to obedience by the Nepaulese; and the year 1790 they had the boldness to send an army into Thibet, and to plunder Teshoo Loomboo, the residence of the Lama, of the Tartars. In revenge the emperor of China sent, in 1792, 70,000 men to invade Nepal, who advanced to within twenty-six miles of Catamandoo, and compelled the rajah to become tributary to the emperor. In this war the Chinese, we are told, brought with them cannon made of pasteboard, which, although they probably burst on the first discharge, certainly frightened the Nepaulese; while, on the other hand, many of the Nepal sepoys being dressed in red, and having European muskets, were believed by the Chinese to be British troops; a remonstrance was therefore sent to lord Cornwallis, then governor-general, on the subject.

In October, 1801, a treaty was concluded between the Nepaulese and the Bengal government, by which a tribute of elephants, which had been long paid by the former as a quit-rent for the district of Muckinacinpore, was relinquished. In 1808 Bierama Sah, when only nine years old, succeeded to the throne; all the power being placed in the hands of the regent, Bheem Sing Tappa.

Six years after a dispute arose respecting a slip of land from twenty to thirty miles in breadth called the Turrayna, and some villages in the Northern part of Bahar of which the Nepaulese took forcible possession. The governor-general, lord Hastings, ordered the British troops to take the field, in the end of the year; but, as the enemy's territory was mountainous, the army was formed into four divisions, for the purpose of making four simultaneous attacks, and preventing the enemy from concentrating their forces. The right division advanced by the direct road towards the capital Catamandoo, the right centre by another route westward; the left division was directed to enter from the banks of the Suttelege; and the left centre to advance through the district of Doun, and secure the eastern bank of the

Ganges. To these was subsequently added a fifth division, to invade the province of Kemaon. The two right divisions found the country so strong that they were not able to proceed: but the left centre entered the mountains, and attacked the fortress of Kalogna; but were severely repulsed. The fifth division entered Kemaon without opposition; and shortly after defeated one of the Nepaul armies, and, after a siege of some days, took the fortress of Almora: in about ten days of hard fighting it reduced the whole province. The western division, under the command of general Ochterlony, also captured the whole of the enemy's army opposed to it; when the rajah sent deputies to the British camp, to solicit peace on any terms. A treaty was accordingly framed, by which the whole of the Terrana or disputed ground, with the exception of part of Morang, was ceded to the British, together with the province of Kemaon: the countries westward of that province were to be restored to the rajah of Serinagur, and other dispossessed chieftains. Previous to the treaty being ratified, however, the rajah died, and, his successor being a boy of three years old, the regency refused to confirm it. The war therefore was renewed in 1816; and the army under general Ochterlony, having advanced through Muckwanpore, having defeated the enemy in a pitched battle arrived within thirty miles of Catamandoo. The regent now in his turn, terrified by the approach of the troops, sent deputies to the British camp, to implore a truce; when the governor-general was satisfied with the terms of the former treaty, except taking under their protection some petty chiefs, who had assisted him during the war, and stipulating that a British envoy should constantly reside at Cattamandoo. By this treaty Nepaul is limited on the west to the river Serjew, or Gogra.

NEPENTHE, *n. s.* Gr. *νη* and *πενθος*, grief. A drug that drives away all pains.

There where no passion, pride, or shame transport,
Lulled with the sweet *nepenthe* of a court;
There where no father's, brother's, friend's disgrace,
Once break their rest, nor stir them from their place.
Pope.

NEPENTHES, in botany, a genus of the tetrandria order, and gynandria class of plants: CAL. quadripartite: COR. none: CAPS. quadrilocular.

NEPETA, or NEP, catmint, in botany, a genus of the gymnospermia order, and didynamia class of plants; natural order forty-second, verticillatæ: COR. under lip having a small middle segment crenated; the margin of the throat is reflexed; the stamina approach one another. There are fourteen species; the most remarkable is,

N. cataria, common nep or catmint. This is a native of many parts of Britain, growing about hedges and in waste places. The stalk is a yard high, and branched; the leaves are hoary; the flowers flesh colored, growing verticillate in spikes at the tops of the branches: the middle segment of the lower lip is spotted with red. The plant has a bitter taste, and strong smell, not unlike pennyroyal. An infusion of this plant is reckoned a good cephalic and emmenagogue;

being found very efficacious in chlorotic cases. Two ounces of the expressed juice may be given for a dose. It is called catmint because cats are very fond of it, especially when it is withered: for they will roll themselves on it, and tear it to pieces, chewing it in their mouths with great pleasure. Mr. Ray mentions his having transplanted some of the plants from the fields into his garden, which were soon destroyed by the cats; but they did not meddle with the plants which came up from seeds in his garden; according to an old proverb, viz. 'If you set it, the cats will eat it; if you sow it, the cats will not know it.' Mr. Withering is of opinion that, where there is a quantity of plants growing together, the cats will not meddle with them: but Mr. Miller affirms that he has frequently transplanted one of these plants from another part of the garden, within two feet of which some came up from seeds, in which case the latter have remained unharmed, when the former have been torn to pieces and destroyed: he acknowledges, however, that where there is a large quantity of the herb growing together, they will not meddle with it. This plant is very hardy, and easily propagated by seeds. If sown upon a poor dry soil, the plants will not grow too rank, but will continue longer, and appear much handsomer, than in rich ground, where they grow too luxuriant, and have not so strong a scent.

NEPHEW, *n. s.* Sax. *nevva*; Fr. *neveu*; Belg. *neef*; Lat. *nepos*. The son of a brother or sister.

All the sons of these five brethren reigned
By due success, and all their *nephews* late,
Even thrice eleven descents the crown retained.

Spenser.

With what intent they were first published, those words of the *nephew* of Jesus do plainly signify, after that my grandfather Jesus had given himself to the reading of the law and the prophets, and other books of our fathers, and had gotten therein sufficient judgment, he proposed also to write something pertaining to learning and wisdom.

Hooker.

Her sire at length is kind,
Prepares his empire for his daughter's ease,
And for his hatching *nephews* smooths the sea.

Dryden.

Immortal offspring of my brother Jove:
My brightest *nephew* and whom best I love. *Id.*
I ask whether, in the inheriting of this paternal power, the grandson by a daughter hath a right before a *nephew* by a brother?
Locke.

NEPHRITIC, *adj.* Gr. *νεφριτικός*; Fr. *nephretique*. Belonging to the organs of urine; hence troubled with the stone; remedial of the stone.

The *nephritic* stone is commonly of a uniform dusky green; but some samples I have seen of it that are variegated with white, black, and sometimes yellow.

Woodward.

The diet of *nephritic* persons ought to be opposite to the alkaliescent nature of the salts in their blood.

Arbuthnot.

NEPHRITIS. See MEDICINE.

NEPISINGUI, a lake of Upper Canada, bounded by rocks, and forming part of the route through which the traders for fur make their way annually into the interior. It is twelve leagues long by five wide, and connected with lake Huron by French River.

NEPOS (Cornelius), a celebrated Latin biographer, who flourished in the time of Julius Cæsar, and lived, according to St. Jerome, to the sixth year of Augustus. He was an Italian, if we may credit Catullus, and born at Hostilia, a small town of Verona, in Cisalpine Gaul. Ausonius, however, will have it that he was born in Gaul: and they may be both in the right, as that part of Italy was Gallia Cisalpina, or Gallia Togata. Leander Alberti thinks Nepos was born in Verona, or its neighbourhood. Cicero and Atticus were friends of our author; who wrote the lives of the Greek historians, as he himself attests in that of Dion, speaking of Philistus. He wrote some other excellent works which are lost. What remains is his *Excellentium Imperatorum Vitæ*, which were long ascribed to Æmilius Probus, who published them, as it is said, under his own name, to insinuate himself into the favor of the emperor Theodosius; but, in the course of time, the fraud has been discovered, although several learned persons have confounded the two authors. This piece was translated into French by Claveret in 1663; and by M. le Gras, at Paris, 1729, 12mo.

NEPOTISM, *n. s.* Fr. *nepotisme*; Lat. *nepos*. Fondness for nephews.

To this humour of *nepotism* Rome owes its present splendor: for it would have been impossible to have furnished out so many glorious palaces, with such a profusion of pictures and statues, had not the riches of the people fallen into different families.

Addison.

NEPOTIANUS (Flavius Popilius), a short lived emperor of Rome, was nephew of Constantine the Great, by his sister Eutropia, and, on the death of his cousin Constans, was proclaimed emperor; but was murdered by Anicetus after one month's reign.

NEPTUNALIA, feasts held among the ancients, in honor of Neptune. The Neptunalia differed from the consualia, in that the latter were feasts of Neptune, considered particularly as presiding over horses, and the manège. Whereas the Neptunalia were feasts of Neptune in general, and not considered under any particular quality. They were celebrated on the 10th of the calends of August.

NEPTUNÉ, in Pagan mythology, the god of the sea, was the son of Saturn and Vesta, or Ops, and the brother of Jupiter and Pluto. He assisted Jupiter in his expeditions; on which that god, when he arrived at the supreme power, assigned him the sea and the islands for his empire. He was, however, expelled from heaven with Apollo for conspiring against Jupiter, when they were both employed by Laomedon, king of Phrygia, in building the walls of Troy; but that prince dismissing Neptune without a reward, he sent a sea monster to lay waste the country, on which he was obliged to expose his daughter Hesione. He is said to have been the first inventor of horsemanship and chariot racing; on which account Mithridates king of Pontus threw chariots drawn by four horses into the sea in honor of this god; and the Romans instituted horse races in the circus at this festival, during which all other horses left working, and the mules were adorned with wreaths of flowers.

In a contest with Minerva *æ* produced a horse by striking the earth with his trident; and on another occasion, in a trial of skill with Minerva and Vulcan, produced a bull, whence that animal was sacrificed to him. His favorite wife was Amphytrite, whom he long courted in vain, till, sending the dolphin to intercede for him, he met with success; on which he rewarded the dolphin by placing him among the stars. He had also two other wives, one of whom was called Salacia from the salt water; the other Venilia from the ebbing and flowing of the tides. He had likewise many concubines, by whom he had a great number of children. To enjoy the company of the goddess Ceres, who had assumed the form of a mare to avoid his importunities, he metamorphosed himself into a horse, and in this form begat the miraculous horse Arion. See **ARION**. To enjoy Theophrane, whom he had previously changed into a sheep, to conceal her from her numerous admirers, he assumed the form of a ram, and conveyed her to the island Crumissa, where he had by her the celebrated ram with the golden fleece, which afterwards occasioned the famous voyage of the Argonauts to Colchis. To gain the confidence of Tyro, the daughter of Salmonus, he took the form of the river god, Enipeus, and by her had Pelius and Neleus. He was also the father of the Cyclop Polyphemus, and of Phorcys, the father of the Gorgons, by Thoosa; of Nycetus, Lycus, and Euphemus, by Celeno; of Agenor and Bellerophon, by Eurynome, the daughter of Nysus; of the giants Othus and Ephialtes (the latter of whom grew nine inches every month), by Iphimedia, the daughter of the giant Aloeus, whence the twins were called Aloeides; and many others too tedious to enumerate. He is represented with black hair, with a garment of an azure or sea-green, holding his trident in his hand, and seated in a large shell drawn by sea-horses, attended by the sea-gods, Palemon, Glaucus, and Phorcys, and the sea-goddesses Tethys, Thetis, Melita, and Panopæa, and a long train of Tritons and sea-nymphs. In Egypt he was called Canobus, or Canopus, and was worshipped as the numen aquarum, or spirit of the Nile. His emblem was the figure of certain vases or pitchers, with which the Egyptians filtrated the water of their sacred river, in order to purify it and render it fit for use. From the mouth of each of these vases, which were charged with hieroglyphics, arose the head and sometimes the head and hands of a man or woman. Such are the emblems which still remain of the Egyptian Neptune or Canopus; and it was by this emblem that the tutular god of Egypt vanquished the god of Chaldea in the ridiculous manner mentioned by Ruffinus in his ecclesiastical history. See **CANOPUS**. The worship of Neptune was established in almost every part of the Pagan world. The Libyans in particular held him in high veneration. He was esteemed not only god of the ocean, but of all rivers and fountains; and it was believed that he could also cause earthquakes at his pleasure, and raise islands from the bottom of the sea with a single stroke of his trident.

NERA, a river of Italy in the ecclesiastical states, which near Terni has a large water-fall. It rises in the Marca d'Ancona, and falls into the Tiber, opposite to Otta.

NERBUDDAH, called also the Reva, a noble river of Hindostan, which has its source in Omercutuc, in the province of Gundwaneh; two other large rivers, one running to the east (the Soane), and the other to the south (the Mahanuddy), having their sources in the same mountain. The Nerbuddah is 750 miles in length, and is one of the straightest in its course in the whole world. After passing through Gundwaneh, it takes a westerly direction through Khandesh, Malwah, and Gujerat, and, passing the city of Broach, falls into the gulf of Cambay. It is navigable by boats for a considerable distance: and its waters are said to have a peculiar bleaching quality. It was once the boundary between Hindostan Proper and the Deccan.

NEREIDES, NEREIDS, in the Pagan theology, sea-nymphs, daughters of Nereus and Doris. The Nereids were esteemed very handsome; insomuch that Cassiope, the wife of Cepheus king of Ethiopia, having triumphed over all the beauties of the age, and daring to vie with the Nereids, they were so enraged that they sent a prodigious sea-monster into the country; and, to appease them, she was commanded by the oracle to expose her daughter Andromeda, bound to a rock, to be devoured by the monster. See *ANDROMEDA* and *PERSEUS*. In ancient monuments the Nereides are represented riding upon sea-horses; sometimes with an entire human form, and at other times with the tail of a fish. Most mythologists enumerate fifty of them. Homer mentions thirty; Apollodorus forty-five. Thetis the mother of Achilles was one of them.

NEREIS, in zoology, a genus of animals belonging to the order of vermes mollusca. The body is oblong, linear, and fitted for creeping; it is furnished with lateral pencilled tentacula. The most remarkable species are the five following:—

1. *N. cærulea*, the blue nereis, inhabits the ocean; where it destroys the serpulæ and tereidines.

2. *N. cirrosa*, the waving nereis. The body is red, lumbriciform, with sixty-five notches, furnished on both sides with two rows of bristles. At each side of the head ten filaments, at the sides of the mouth many, twice as long as the former. It dwells in Norway, on rocks at the bottom of the sea. It vomits a red liquor, with which it tinges the water.

3. *N. gigantæa*, the giant nereis, is a peculiar species of those large worms that make their way into decayed piles driven down into the sea, which they bore through and feed upon, whence they are called sea-worms. From head to tail they are beset on either side with small tufts terminating in three points; which are like the fine hair pencils used by painters, and composed of shining bristles of various colors. The upper part of the body in this worm is all over covered with small hairs. The rings of which it is formed are closely pressed together, and yield to

the touch. The three rows of small tufts serve instead of feet, which it uses as fish do their fins.

4. *N. lacustris*, the bog nereis. The body of the size of a hog's short bristles, transparent, as it were articulated, and on either side at every articulation provided with a short setaceous foot; interiorly it seems to consist in a manner of oval-shaped articulations, and a back formed by two lines bent backwards. It inhabits marshes abounding in clay, where it remains under ground pushing out its other extremity by reason of its continual motion. When taken out it twists itself up. It is frequent in Sweden.

5. *N. noctiluca*, the noctilucous nereis, inhabits almost every sea, and is one of the causes of the luminousness of the water. These creatures shine like glow-worms, but with a brighter splendor, so as at night to make the element appear as if on fire all around. Their bodies are so minute as to elude examination by the naked eye. It is sometimes called nereis phosphorans; and is thus described by Griselin:—The head is roundish and flat, and the mouth acuminated. The two horns or feelers are short and subulated. The eyes are prominent, and placed on each side the head. The body is composed of about twenty-three segments or joints, which are much less near the tail than at the head. These segments on both sides the animal all end in a short conical apex, out of which proceeds a little bundle of hairs; from under these bundles the feet grow in the form of small flexile subulated segments destitute of any thing like claws. It is scarcely two lines long, is quite pellucid, and its color is that of water green. They are found upon all kinds of marine plants; but they often leave them and are found upon the surface of the water; they are frequent at all seasons, but especially in summer before stormy weather, when they are more agitated and more luminous. Their numbers and wonderful agility, added to their pellucid and shining quality, do not a little contribute to their illuminating the sea, for myriads of these animalculæ may be contained in the portion of a small cup of sea-water. Innumerable quantities of them lodge in the cavities of the scales of fishes, and to them probably do the fishes owe their noctilucous quality. 'I have observed with great attention,' says Barbot, 'a fish just caught out of the sea, whose body was almost covered with them, and have examined them in the dark; they twist and curl themselves with amazing agility, but soon retire out of our contracted sight; probably their glittering numbers dazzling the eye, and their extreme minuteness eluding our researches. It is to be observed that, when the unctuous moisture which covers the scales of fishes is exhausted by the air, these animals are not to be seen; nor are the fishes then noctilucous, that matter being perhaps their nourishment when living, as they themselves afford food to many marine animals. They do not shine in the daytime, because the solar rays are too powerful for their light, however aggregate or immense their number.' Their appearance is particularly brilliant when the wind is in the east and south-east points, and in the winter nights preceded by a warm day. If water containing these animal-

cues be kept warm, they retain their light two whole days after they are dead; but in cold water lose it in eight hours: motion and warmth, which increase their vivacity and strength, increase their light also.

NEREUS, in mythology, a marine deity, the son of Oceanus and Tethys. He settled in the Ægean Sea, was considered as a prophet, and had the power of assuming what form he pleased. He married his sister Doris, by whom he had fifty daughters called Nereids, who constantly attended on Neptune, and when he went abroad surrounded his chariot.

NERI (St. Philip de), founder of the congregation of the Oratory in Italy, was born of a noble family at Florence, on the 25th of July, 1515. Educated in the principles of piety and learning, he soon became distinguished for his knowledge and virtue. At the age of nineteen he went to Rome, where he assisted the sick. Being raised to the priesthood, at the age of thirty-six, he instituted in 1550 a fellowship in the church of St. Saviour del Campo, for the relief of poor foreigners, pilgrims, and convalescents, who had no place whither they could retire. This society was the cradle of the congregation of the Oratory. Having gained over Salviati, brother to the cardinal, Tarugio, afterwards cardinal, the celebrated Baronius, and others, they began to form a society in 1564. The spiritual exercises had been transferred in 1558 to the church of St. Jerome de la Charité, which Philip did not leave till 1574, when he went to stay at St. John of the Florentines. Pope Gregory XIII. gave his approbation of the congregation in 1575. The order soon spread throughout Italy. No vow is taken; charity is the only bond of connexion. The general continues only three years in office, and his orders are not despotic. The founder died in Rome on the 26th of May, 1595, aged eighty. He had resigned the generalship in 1592, in favor of Baronius. The constitutions which he left were not printed till 1612. Philip was canonised in 1622, by Gregory XV.

NERI (Anthony), an early Florentine chemist, who wrote on the art of glass-making. He was born in Florence in the middle of the sixteenth century; and though he adopted the ecclesiastical profession, refused to accept of any benefice, that he might be at leisure to pursue his favorite sciences. He resided for a long time at Antwerp, and visited several parts of Europe; the period of his death is unknown. His principal treatise, *Arte Vetraria Distinta in Libra Sette*, has been often translated and printed.

NERIS-LES-BAINS, a large borough in the department of the Allier, about four miles south-east of Montluçon, with 1100 inhabitants, famous for its baths. It is pleasantly situated at the head of the canal of the Cher, on the great road from Moulins to Limoges. Of the ancient city of Neris, which was patronised by the Roman emperors and embellished with monuments of every kind, sacked under Constantius II., restored by Julian and his successors, plundered again by Clovis, and finally by the Normans, some ruins yet remain, presenting objects of the greatest interest to artists and antiquaries.

The geographical situation of this place, and the beneficial effects of its hot springs, attract to it a great concourse of visitors. The water falls with considerable force and in great abundance into an immense basin of an oval form, divided into three parts and containing the produce of four springs. There is no grand bath, but in all the inns there are bathing rooms, which contain eight or nine convenient baths.

The waters of Neris are very clear, oily, without taste or smell; they have both tonic and soothing properties. They are very serviceable in chronic disorders, cutaneous eruptions, nervous affections, glandular and rheumatic complaints, and are used either by bathing, washing, or drinking. The temperature varies from 16° to 24° of Reaumur's thermometer: The season for these waters is from the 25th of May to the 10th of October. Among the antiquities may be mentioned the remains of an amphitheatre and a Roman camp to the west of the town. There is a hospital for the gratuitous reception of 130 sick persons. In the vicinity are some pleasant walks.

NERIUM, in botany, oleander or rose bay, a genus of the monogynia order and pentandria class of plants; natural order thirtieth, contortæ. It is called nerium from *νηρος*, humid, because the plants grow in moist places. There are two erect foliaceous; the seeds plummy; the tube of the corolla terminated by a lacerated crown. Its peculiar characters are these: the empalment of the flower is permanent, and cut into five acute segments; the flower has one funnel-shaped petal, cut into five broad obtuse segments, which are oblique; it has a nectarium, terminating the tube, which is torn into hairy segments; it has five short awl-shaped stamina within the tube; it has an oblong germen, which is bifid, with scarce any style, crowned by single stigmas; the germen afterwards turns to two long, taper, acute-pointed pods, filled with oblong seeds lying over each other like the scales of a fish, and crowned with down. There are seven species, all natives of warm climates. The most remarkable are these:—

1. *N. antidysintericum*, a native of Ceylon. The bark is an article in the materia medica, under the name of *conessi*.

2. *N. oleander*, South Sea rose, a beautiful shrub, cultivated in gardens on account of its flowers, which are of a fine purple, and in clusters. The whole plant is poisonous, and especially the bark of the roots. Oleanders are generally propagated by layers in this country; for, although they will take root from cuttings, yet that being an uncertain method, the other is generally preferred; and, as the plants are very apt to produce suckers or shoots from their roots, these are best adapted for laying; for the old branches will not put out roots; when these are laid down, they should be slit at a joint, in the same manner as is practised in laying carnations. There are few plants which are equal to them either to the sight or smell, for their scent is very like that of the flowers of the white thorn; and the bunches of flowers will be very large if the plants are strong. The nerium oleander in qualities resembles the apocynum. But when

nandled and examined, in a close chamber, it causes a gradual numbness, with a pain in the head; which shows that something poisonous belongs even to the smell, though there is no danger, if it be received in the open air.

N. tinctorum, a species with beautiful blue flowers, discovered by Dr. Roxburgh at Madras. A decoction of the leaves, with an addition of lime-water, makes an indigo of fine quality.

NERO (Claudius Domitius Cæsar), the sixth emperor of Rome, and the last of the family of the Cæsars, was the son of Caius Domitius Ahenobarbus and Agrippina, the daughter of Germanicus. He was adopted by the emperor Claudius, A. D. 50, and, four years after, succeeded him. In the beginning of his reign he assumed the appearance of the greatest kindness, condescension, affability, complaisance, and humanity. The object of his administration seemed to be the good of his people; and, when he was desired to sign his name to a list of malefactors that were to be executed, he exclaimed, 'Would to heaven I had never learned to write!' When the senate had liberally commended the wisdom of his government, he desired them to keep their praises till he deserved them. These apparent virtues, however, proved to be evanescent and artificial: Nero soon displayed the real propensities of his nature. He delivered himself from the sway of his mother, and at last ordered her to be murdered. Many of his courtiers shared her unhappy fate; and Nero sacrificed to his fury or caprice all who obstructed his pleasure or inclination. In the night he generally went from his palace to visit the meanest taverns, and all the scenes of debauchery which Rome contained. In these nocturnal riots he insulted the people in the streets; and his attempts to offer violence to the wife of a Roman senator nearly cost him his life. He also turned actor, and appeared publicly on the Roman stage. To excel in music, and to conquer the disadvantages of a hoarse disagreeable voice, he moderated his meals, and often passed the day without eating. He next went into Greece, and presented himself a candidate at the Olympic games. He was defeated in wrestling; but the flattery of the spectators adjudged him the victory, and he returned to Rome with all the pomp and splendor of an eastern conqueror, drawn in the chariot of Augustus, and attended by a band of musicians, actors, and stage-dancers. These amusements, however, were comparatively innocent; but his conduct soon became abominable. He disguised himself in the habit of a woman, and was publicly married to one of his eunuchs. This violence to nature and decency was soon exchanged for another: Nero resumed his sex, and celebrated his nuptials with one of his meanest catamites: and on this occasion a Roman wit observed, that the world would have been happy if Nero's father had had such a wife. His cruelty was now displayed in a still higher degree; for he sacrificed his wife Octavia Poppæa, and the celebrated writers Seneca, Lucan, Petronius, &c. He had read of the burning of Troy, and to represent that dismal scene he caused Rome to be set on fire in different places. The conflagration became soon universal, and during nine succes-

sive days, the fire continued. All was desolation: nothing was heard but the lamentations of mothers whose children had perished in the flames, the groans of the dying, and the continual fall of palaces and buildings. Nero was the only one who enjoyed the general consternation. He placed himself on the top of a high tower, and played on his lyre, while he sung the destruction of Troy; a dreadful scene which his barbarity had realised before his eyes. He attempted to avert the public odium from his head by a pretended commiseration of the miseries of his subjects, and by throwing the blame of the fire on the Christians; which gave rise to the first dreadful persecution, wherein St. Peter and St. Paul are said to have suffered. Nero began to repair the streets and the public buildings at his own expense. He built a celebrated palace, which he called his golden house. It was liberally adorned with gold, with precious stones, and with every thing rare and exquisite. It contained spacious fields, artificial lakes, woods, gardens, orchards, whatever exhibited a beautiful scene. The entrance of this edifice admitted a large colossus of the emperor, 120 feet high, which Pliny says was afterwards destroyed by lightning: the galleries were each a mile long, and the whole was covered with gold. The roofs of the dining halls represented the firmament, in motion as well as in figure; and continually turned round night and day, showering down all sorts of perfumes and sweet waters. This grand edifice, according to Pliny, extended all round the city. When he went a fishing his nets were of gold and silk. He never appeared twice in the same garment; and when he took a voyage there were thousands of servants to take care of his wardrobe. This continuation of debauchery, extravagance, and cruelty at last roused the people. Many conspiracies were formed against him; but they were generally discovered, and the conspirators suffered the severest punishments. The most dangerous one was that of Piso, from which Nero was saved by the confession of a slave. The conspiracy of Galba proved more successful, who, when he learned that his plot was known to Nero, declared himself emperor. The unpopularity of Nero favored his cause; he was acknowledged by all the Roman empire; and the senate condemned the tyrant to be dragged naked through the streets of Rome, whipped to death, and afterwards to be thrown down from the Tarpeian rock like the meanest malefactor. This, however, Nero prevented by killing himself, A. D. 68, in the thirty-second year of his age, after a reign of thirteen years and eight months. Rome was filled with acclamations; and the citizens, more strongly to indicate their joy, wore caps, such as were generally used by slaves who had received their freedom. See ROME. The name of Nero has been ever since used emphatically to express a barbarous and bloody tyrant.

NERVA (Cocceius), an excellent Roman emperor, who succeeded Domitian, the last of the twelve Cæsars. He was a native of Narnia in Umbria; but his family was originally of Crete. Dio Cassius says he was born on the 17th of March, in the eighteenth year of Tiberius, A. D. 32. Nero, in the twelfth year of his reign, made

him prætor, and erected a statue for him in the palace on account of his poems (for he was one of the best poets of his age), some of which were inscribed to him. He was consul in 71 with Vespasian, and in 90 with Domitian. Authors uniformly celebrate him as a prince of a most mild and humane temper, of great moderation and generosity, who looked on his office as emperor, not as if it was for his own advantage, but for that of his people; and whilst he reigned he made the happiness of his subjects his only pursuit. He narrowly escaped death under Domitian. The Romans unanimously chose him emperor; and they had no cause to repent of their choice. An instance of his great lenity appears in his pardoning Calpurnius Crassus, who conspired against him. In short he omitted nothing that might contribute to the restoring of the empire to its former lustre; recalling those who had been banished for religion, and redressing all grievances. Finding his strength failing, he conferred an additional benefit on the Romans by adopting Trajan. He died A. D. 98. He was the first Roman emperor of foreign extraction

NERVE, *n. s.* } Fr. *nerf*; Lat. *nervus*.
 NERVELESS, *adj.* } A peculiar filament of the
 NERVOUS, } body of animals. See ANA-
 NERVY. } TOMY, Index. Nerveless is,
 destitute of nerves; weak; wanting strength:
 nervous and nervy, strong; vigorous; relating
 to the nerves; also (by way of banter) having
 weak or disordered nerves; hypochondriac. The
 latter word is seldom used.

What man dare, I dare:
 Approach thou like the rugged Russian bear;
 Take any shape but that, and my firm nerves
 Shall never tremble. *Shakspeare. Macbeth.*
 Death, that dark spirit, in his *nervy* arm doth lie,
 Which, being advanced, declines, and then men die.
Shakspeare.

If equal powers
 Thou wouldst inflame, amidst my *nerves*, as then
 I could encounter with three hundred men.

Chapman.
 The *nerves* do ordinarily accompany the arteries
 through all the body; they have also blood vessels,
 as the other parts of the body. Wherever any *nerve*
 sends out a branch, or receives one from another, or
 where two *nerves* join together, there is generally a
 ganglio or plexus. *Quincy.*

Poor, weak, *nervous* creatures. *Cheyne.*
 Strong Thyrsmid discharged a speeding blow
 Full on his neck, and cut the *nerves* in two. *Pope.*

There sunk Thalia, *nerveless*, faint and dead,
 Had not her sister Satire held her head. *Id.*
 What *nervous* arms he boasts, how firm his tread,
 His limbs how turned! *Pope's Odyssey.*

The vernal torrent, murr'ring from afar,
 Whispered no peace to calm this *nervous* war;
 And Philomel, the siren of the plain,
 Sung soporific unisons in vain. *Hart.*

When the second Charles assumed the sway,
 And arts revived beneath a softer day,
 Then, like a bow long forced into a curve,
 The mind, released from too constrain'd a *nerve*,
 Flew to its first position with a spring,
 That made the vaulted roofs of Pleasure ring.

For he who hath in turn run through
 All that was beautiful and new,

Hath nought to hope, and nought to leave;
 And, save the future (which is viewed
 Not quite as men are base or good,
 But as their *nerves* may be ended),
 With nought perhaps to grieve. *Byron.*

NERVOUS SYSTEM. See ANATOMY, MUSCLES,
 and PHYSIOLOGY.

NESBIT (Thomas), an eminent Scottish anti-
 quarian, born at Edinburgh in 1672. He was
 the son of lord president Nesbit, and wrote a
 book on Heraldry, and a Vindication of Scottish
 Antiquities, which is still in MS. in the Advocates
 Library at Edinburgh. He died in 1725.

NESBIT (Alexander), a Scottish antiquary, son
 of lord president Nesbit, was born at Edinburgh
 in 1672, and educated for the bar. He however
 practised his profession very little, but dedicated
 himself almost exclusively to the study of anti-
 quities. Of these he wrote an able Vindication,
 still preserved in MS. in the advocates' library,
 Edinburgh. His other works are, An Essay on
 the use of Armories; an excellent Treatise on
 Heraldry, in 2 vols. folio; and an Heraldical
 Essay on Addition of Figures of Cadency. He
 died in 1725 at the family seat of Dirlton.

NESCHIN, a considerable town of European
 Russia, on the Oster, in the government of
 Czernigov. It is considered one of the best built
 towns in this part of the empire, and, standing on
 the great road between its north and south divi-
 sion, conducts an extensive home trade. A great
 number of Greek merchants and dealers reside
 here. There are fifteen churches in the town,
 and about 16,000 inhabitants. Neschin has three
 annual fairs, and is forty-nine miles S. S. E. of
 Czernigov.

NESCIENCE, *n. s.* Lat. *nescio*. Ignorance;
 the state of not knowing.

Many of the most accomplished wits of all ages
 have resolved their knowledge into Socrates his sum
 total, and after all their pains in quest of science,
 have sat down in a professed *nescience*. *Glanville.*

NESSUS, in fabulous history, a celebrated
 centaur, son of Ixion and the Cloud. He offered
 violence to Dejanira, whom Hercules had en-
 trusted to his care, with orders to carry her across
 the river Evenus. Hercules saw the distress of
 his wife from the opposite shore, and immediately
 let fly one of his poisonous arrows, which struck
 the centaur to the heart. Nessus, as he expired,
 gave the tunic he then wore to Dejanira, assuring
 her that, from the blood which had flowed from
 his wounds, it had received the power of recall-
 ing a husband from unlawful love. Dejanira
 received it with pleasure, and this mournful pre-
 sent caused the death of Hercules.

NEST, *n. s.* & *v. n.* } Sax. *nept*; Teut.
 NEST-EGG, *n. s.* } *nest*; Swed. *nasle*.
 NEST'LE, *v. n.* & *v. a.* } The bed or abode of
 NEST'LING, *n. s.* } a bird; any warm
 close place, or habitation; hence a place of con-
 cealment or security; in which sense it is applied
 both to a 'den of thieves' or rogues (see below)
 and to any set of little boxes or drawers: as a
 verb to build nests: the nest egg is one left in a
 nest to secure the visits of the hen: to nestle is
 to sit close and snug; or settle as a bird in its
 nest: and, as an active verb, to house or cherish;
 nestling is a bird just taken from the nest.

If a bird's nest chance to be before thee in the way,
thou shalt not take the dam with the young.

Deut. xxii. 6.

Some of our ministers, having livings offered unto
them, will neither for zeal of religion nor winning
souls to God, be drawn forth from their warm nests.

Spenser.

Come from that nest

Of death, contagion, and unnatural sleep.

Shakspeare.

Their purpose was to fortify in some strong place
of the wild country, and there nestle 'till succours
came.

Bacon.

This Ithacus, so highly is endeared
To this Minerva, that her hand is ever in his deeds ;
She, like his mother, nestles him.

Chapman's Iliad.

Poor heart !

That labourst yet to nestle thee,

Thou thinkst by hovering here to get a part,

In a forbidden or forbidding tree.

Donne.

The example of the heavenly lark,

Thy fellow poet, Cowley, mark,

Above the skies let thy proud musick sound,

Thy humble nest build on the ground.

Cowley.

Books and money laid for shew,

Like nesteggs, to make clients lay.

Hudibras.

The cedar stretched his branches as far as the
mountains of the moon, and the king of birds nested
within his leaves.

Howel.

Fluttering there they nestle near the throne,

And lodge in habitations not their own.

Dryden.

A cock got into a stable was nestling in the straw
among the horses.

L'Estrange.

The king's fisher wonts commonly by the water-
side, and nestles in hollow banks.

Id.

The floor is strewed with several plants, amongst
which the snails nestle all the winter.

Addison.

Cupid found a downy bed,

And nestled in his little head.

Prior.

Redi found that all kinds of putrefaction did only
afford a nest and aliment for the eggs and young of
those insects he admitted.

Bentley.

Mark where the shy directors creep,

Nor to the shore approach too nigh ;

The monsters nestle in the deep,

To seize you in your passing by.

Swift's Miscellanies.

NESTOR, in fabulous history, a son of Neleus
and Chloris, nephew to Pelias, and grandson to
Neptune. He had eleven brothers, who were all
killed by Hercules. His tender age detained
him at home, and was the cause of his preserva-
tion. The conqueror spared his life, and placed
him upon the throne of Pylos. He married
Eurydice the daughter of Clymenus ; or, accord-
ing to others, Anaxibia, the daughter of Atreus.
He soon distinguished himself in battle ; and
was present at the nuptials of Pirithous, when a
bloody engagement took place between the La-
pithæ and Centaurs. As king of Pylos and Mes-
senia he led his subjects to the Trojan war, where
he distinguished himself by eloquence, address,
wisdom, justice, and uncommon prudence. Ho-
mer displays his character as the most perfect
of all his heroes ; and Agamemnon exclaims that
if he had twenty generals like Nestor he should
soon see Troy reduced to ashes. After the Trojan
war Nestor retired to Greece, where he enjoyed
in his family peace and tranquillity. The an-
cients all agree that he lived three generations

of men ; which is supposed to be 300 years, but
more probably only ninety years, allowing thirty
years for each generation. He had two daugh-
ters, Pisidice and Polycaste ; and seven sons,
Perseus, Straticus, Aretus, Ecephron, Pisistratus,
Antilochus, and Thrasimedes. Nestor was one
of the Argonauts, according to Valerius Flaccus.

NESTOR, or NESTOROVA, a native of Russia,
the earliest historian of the north, was born in
1056 at Vielozero : and, in his nineteenth year,
assumed the monastic habit in the convent of
Petcherski at Kiof. He is said to have lived to
an advanced age, and to have died about A. D.
1115. His great work is his Chronicle, to which
he has prefixed an introduction, which after a
short sketch of the early state of the world, from
the Byzantine writers, contains a geographical
description of Russia and the adjacent regions ;
an account of the Slavonian nations, their man-
ners, their emigrations from the banks of the Da-
nube, their dispersion, and settlement in the
several countries wherein their descendants are
now established. He then enters upon a chro-
nological series of the Russian annals from A. D.
858 to about 1113.

NESTORIANS, a sect of ancient Christians,
still subsisting in some parts of the Levant ;
whose distinguishing tenet, in opposition to the
Jesuits, &c., is that Mary, though styled in
Scripture the mother of Jesus, is not, and cannot
be, the mother of God. They take their name
from Nestorius, bishop of Constantinople, whose
doctrines were spread with much zeal through
Syria, Egypt, and Persia. One of the chief pro-
moters of the Nestorian cause was Barsumus,
bishop of Nisibis, A. D. 435. By him Pherozes,
the Persian monarch, was persuaded to expel
those Christians who adopted the opinions of
the Greeks, and to admit the Nestorians in their
place, putting them in possession of the princi-
pal seat of ecclesiastical authority in Persia, the
see of Seleucia. Barsumus also erected a school
at Nisibis, from which proceeded those Nestorian
doctors who, in the fifth and sixth centuries,
spread their tenets through Egypt, Syria, Arabia,
India, Tartary, and China. In the tenth century
the Nestorians in Chaldea, whence they are some-
times called Chaldeans, extended their spiritual
conquests beyond mount Imaus, and introduced
the Christian religion into Tartary, properly so
called, and especially into that country called
Karit, bordering on the north part of China. The
prince of that country, whom the Nestorians con-
verted to the Christian faith, assumed, according to
the vulgar tradition, the name of John after his
baptism, to which he added the surname of Pres-
byter ; whence it is said his successors were styled
Prester John until the time of Jenghiz Khan.
But Mosheim observes that the famous Prester
John did not begin to reign in that part of Asia
before the conclusion of the twelfth century.
The Nestorians formed so considerable a body
of Christians that the missionaries of Rome were
industrious in their endeavours to reduce them
under the papal yoke. Innocent IV. in 1246,
and Nicolas IV. in 1278, used the utmost of their
power in this point, but without success. Till
the time of pope Julius III. the Nestorians ac-
knowledgeed but one patriarch, who resided first

at Bagdad, and afterwards at Mousul; but a division arising among them, in 1551, the patriarchate became divided, at least for a time, and a new patriarch was consecrated by that pope, whose successors fixed their residence in the city of Ormus, in the mountainous part of Persia; and so far down as the seventeenth century these patriarchs persevered in their communion with the church of Rome. The great Nestorian pontiffs who form the opposite party, and look with a hostile eye on this little patriarchate, have since 1559 been distinguished by the general denomination of Elias, and reside constantly in Mousul. Their spiritual dominion is very extensive, takes in a great part of Asia, and comprehends also within its circuit the Arabian Nestorians, and the Christians of St. Thomas, who dwell along the coast of Malabar. It is to the lasting honor of the Nestorians that, of all the Christian societies established in the east, they have been the most careful and successful in avoiding a multitude of superstitious opinions and practices that have infected the Greek and Latin churches. About the middle of the seventeenth century the Romish missionaries gained over to their communion a small number of Nestorians, whom they formed into a church; the bishops of which reside in the city of Amida, or Diarbekir, and all assume the name of Joseph. Nevertheless the Nestorians in general persevered in their refusal to enter into the communion of the Romish church, notwithstanding the earnest entreaties and alluring offers made by the pope's legate to conquer their inflexible constancy.

NESTORIUS, from whom the sect of Nestorians derive their name, was born in Germanica, a city of Syria, and educated and baptised at Antioch; and soon after his baptism he withdrew to a monastery in the suburbs of that city. Upon his being admitted priest, he soon acquired so great reputation, by his eloquence and the regularity of his life, that the emperor Theodosius deemed him a fit person to fill the second see in the Christian church, and he was accordingly consecrated bishop of Constantinople in 429. He became a violent persecutor of heretics, but, contending for the doctrine that 'the Virgin Mary cannot with propriety be called the mother of God,' he was deprived of his see by the counsel of Ephesus. He then retired to his ancient monastery at Antioch, whence he was taken by the emperor's order, and banished in 435 to Tarsus. That city being destroyed by the barbarians, he was removed to Panopolis, a city of Thebais; where he was not suffered to remain long, but was compelled to go from place to place, till, being in one of his journeys mortally bruised by a fall, death removed him from the fury of his persecutors. He rejected the errors of Ebion, Paulus Samosatenus, and Photinus. He maintained, in express terms, that the divine word was united to the human nature in Jesus Christ in the most strict and intimate sense possible; that these two natures, in this state of union, make but one Christ and one person; that the properties of the divine and human natures may both be attributed to this person; and that Jesus Christ may be said to have been born of a virgin, to have suffered and died.

NET, *n. s.* } Sax. *net*, *nette*; Goth. and
 NETTING, } Dan. *net*; Swed. *net*; Belg.
 NET-WORK, } *nette*. A knotted and woven texture; applied particularly to a snare of this kind used in taking various animals: netting and network mean a piece of work of this description.

He made *nets* of chequered work for the chapters, upon the top of the pillars. 1 Kings vii. 17.

Nor any skilled in workmanship embossed;

Nor any skilled in loops of fingering fine;

Might in their diverse cunning ever dare,

With this so curious *network* to compare.

Spenser.

Poor bird! thou did'st never fear the *net*, nor lime,
 The pitfall nor the gin. *Shakspeare. Macbeth.*

Impatience entangles us like the fluttering of a bird in a *net*, but cannot at all ease our trouble.

Taylor.

A large cavity in the *sinciput* was filled with ribbons, lace, and embroidery, wrought together in a curious piece of *network*.

Addison.

Whoever contemplates with becoming attention this curious and wonderful *network* of veins, must be transported with admiration.

Blackmore.

The reason why so few marriages are happy is because young ladies spend their time in making *nets*, not in making *gates*.

Swift.

The vegetative tribes,

Wrapt in a filmy *net*, and clad with leaves.

Thomson.

A NET is chiefly used for catching fish or fowls. See BIRD CATCHING and FISHERY. The taking fowls by nets is the readiest and most advantageous of all others, where numbers are to be taken. The making the nets is very easy, and what every true sportsman ought to be able to do for himself. All the necessary tools are wooden needles, of which there should be several of different sizes, some round and others flat; a pair of round pointed and flat scissars; and a wheel to wind off the thread. The packthread is of different strength and thickness, according to the sort of birds to be taken; and the general size of the meshes, if not for very small birds, is two inches from point to point. The nets should neither be made too deep nor too long, for they are then difficult to manage; and they must be verged on each side with twisted thread. The natural color of the thread is too bright and pale, and is therefore in many cases to be altered. The most usual color is the russet; which is to be obtained by plunging the net, after it is made, into a tanner's pit, and letting it lie there till it is sufficiently tinged: this is of a double service to the net, since it preserves the thread as well as alters the color. The green color is given by chopping some green wheat and boiling it in water, and then soaking the net in this green tincture. The yellow color is given in the same manner with the decoction of celandine; which gives a pale straw-color, which is the color of stubble in harvest. The brown nets are to be used on ploughed lands, the green on grass grounds, and the yellow on stubble lands.

NET, DAY, among fowlers, a net generally used for taking such small birds as play in the air, and will stoop either to prey, giz, or the like; as larks, linnets, buntings, &c. The time of the year for using this net is from August to November; the best time is very early in the

morning: the milder the air, and the brighter the sun is, the better will be the sport, and of longer continuance. The place where this net should be laid ought to be plain champaign, either on short stubble, green ley, or flat meadows, near corn-fields, and somewhat remote from towns and villages: let the net lie close to the ground, that the birds creep not out and escape. The net is made of fine packthread with a small mesh, not exceeding half an inch square; it must be three fathoms long, and one broad: verged about with a small but strong cord; and the two ends extended upon two small long poles, suitable to the breadth of the net, with four stalks, tail-strings, and drawing lines. This net is composed of two nets exactly alike; laid opposite to one another, so even and close that when they are drawn and pulled over the sides must meet and touch each other. Stake this net down with strong stakes, very stiff on their lines, so that you may with a nimble touch cast them to and fro at pleasure; then fasten your drawing cords or handlines (of which there must be a dozen at least, and each two yards long) to the upper end of the foremost staves: and so extend them of such a straitness that with a slight pull they may rise up in the nets, and cast them over. The net being thus laid place the gigs or playing wantons about twenty or thirty paces beyond, and as much on this side the nets: the gigs must be fastened to the tops of long poles, and turned into the wind, so as they may play to make a noise therein. These gigs are a sort of toys made of long goose feathers, like shuttle-cocks, and with small tunnels of wood running in broad and flat swan-quills, made round like a small hoop; which, with longer strings fastened to a pole, will, with any small wind or air, move after such a manner that birds will come in great flocks to play about them. When the gigs are placed, then place the stake; which is a small stake of wood, to prick down into the earth, having in it a mortice hole, in which a small and slender piece of wood, about two feet long, is fastened, so as to move up and down at pleasure; and fasten to this longer stick a small line, which, running through a hole in the stick above mentioned, and so coming up to the place where you are to sit, you may, by drawing the line up and down with your right hand, raise up the longer stick as you see occasion. Fasten a live lark, or such like bird, to this longer stick, which, with the line making it to stir up and down by pulling, will entice the birds to come to your net. There is another stake, or enticement, to draw on these birds, called a looking-glass; which is a round stake of wood, as big as a man's arm, made very sharp at the end, to thrust it into the ground: very hollow in the upper part; above five fingers deep; into which hollow they place a three-square piece of wood about a foot long, and two inches broad, lying upon the top of the stake, and going with a foot into the hollowness; which foot must have a great knob at the top, and another at the bottom, with a deep slenderness between; to which fasten a small pack-thread, which, running through a hole in the side of the stake, must come up to the place where you sit. The three-square piece

of wood, which lies on the top of the stake, must be of such a poise and evenness, and the foot of the socket so smooth and round, that it may whirl and turn round upon the least touch; winding the pack-thread so many times about it, as being suddenly drawn, and as suddenly let go, will keep the engine in a constant rotary motion: then fasten with glue on the uppermost flat squares of the three-square piece, about twenty small pieces of looking glass, and paint all the square wood between them of a light and lively red; which, in the continual motion, will give such a reflection, that the birds will play about until they are taken. Both this and the other stake are to be placed in the middle between the two nets, about two or three feet from each other; so that, in the falling of the nets, the cords may not touch or annoy them: neither must they stand one before or after another; the glass being kept in a continual motion, and the bird very often fluttering. Having placed the nets in this manner, with the gigs and stakes, go to the further end of the long drawing-lines and stake lines; and lay the main drawing-line across your thigh, and, with your left, pull the stake-lines to show the birds; and, when you perceive them to play near and about your nets and stakes, then pull the net over with both hands, with a quick but not too hasty motion; for otherwise your sport will be spoiled.

NET, or NEAT, in commerce, something pure, and unadulterated with any foreign mixture. Thus wines are said to be net when not falsified or balderdash: and coffee, rice, pepper, &c., are net when the filth and ordures are separated from them. See NEAT. A diamond is said to be net when it has no stains or flaws; a crystal when transparent throughout.

NET is also used for what remains after the tare has been taken out of the weight of any merchandise; i. e. when it is weighed clear of all package. See TARE. Thus we say a barrel of cochineal weighs 450 pounds; the tare is fifty pounds, and there remains net 400.

NETHER, *adj.* } Saxon *n 00er*; Gothic
NETHERMOST. } *nedir*; Belg. and Swed.
nedir. The comparative of the obsolete adjective *neath*. Lower; hence infernal, belonging to the lower regions: *nethermost* is the superlative; lowest.

No man shall take the *nether* or the upper millstone to pledge; for he taketh a man's life to pledge.
Deut. xxiv. 6.

Great is thy mercy towards me, and thou hast delivered my soul from the *nethermost* hell. *Psalms*.

This shews you are above,
You justices, that these our *nether* crimes,
So speedily can venge.

Shakespeare. King Lear.
In his picture are two principal errors, the one in the complexion and hair, the other in the mouth, which commonly they draw with a full and *nether* great lip.
Peacham.

Numberless were those bad angels, seen
Hovering on wing under the cope of hell,
Twixt upper, *nether*, and surrounding fires.

Milton.

No less desire
To found this *nether* empire, which might rise,
In emulation, opposite to heaven. *Id.*





Undaunted to meet there whatever power,
Or spirit, of the *nethermost* abyss
Might in that noise reside. *Id. Paradise Lost.*

The upper part whereof was withy,
The *nether*, orange mixed with gray. *Hudibras.*
A beauteous maid above, but magic arts,
With barking dogs, deformed her *nether* parts.

Roscommon.

All that can be said of a liar lodged in the very *nethermost* hell is this, that if the vengeance of God could prepare any place worse than hell for sinners, hell itself would be too good for him. *South.*

Heraclitus tells us that the eclipse of the sun was after the manner of a boat, when the concave as to our sight, appears uppermost, and the convex *nethermost*.
Keil against Burnet.

NETHERLANDS. The kingdom of this name was erected in Europe in 1814, comprising seven Dutch and ten Belgic provinces, together with the grand duchy of Luxemburg. It extends from 49° 30' to 53° 34' of N. lat., and from 2° 30' to 6° 58' of E. long., and is bounded on the west and north by the German Ocean, on the south by France, and on the east by Hanover and the Prussian territories of the Lower Rhine. It is now, therefore, composed of the following provinces:—1. The seven Northern or Protestant provinces, being the former republic of Holland. 2. The ten Southern, Catholic, or Belgic provinces, that constituted the Austrian Netherlands. 3. The former principality or bishopric of Liege. 4. The grand duchy of Luxemburg, which was obtained as an indemnity for the German possessions of the house of Orange Nassau ceded to Prussia. By the second general pacification of Paris, November 20th, 1815, the French also ceded some frontier districts, and two fortresses to the Netherlands. They are now divided into the following provinces; the population and chief towns are also given as below:—

I.—NORTHERN OR DUTCH PROVINCES.

Provinces.	Popula- tion.	Chief Towns.	Popula- tion.
Groningen	136,000	Groningen	25,000
Friesland	170,000	Lieuwarden	15,000
Dreuthe	47,000	Meppel	4,700
Overyssel	148,000	Zwolle	13,000
Guelderland	244,000	Arnheim	10,000
Utrecht	108,000	Utrecht	32,000
Holland	750,000	Amsterdam	200,000
Zealand	112,000	Middleburg	15,000

II.—SOUTHERN OR BELGIC PROVINCES.

North Brabant	252,000	Bois-le-duc	15,000
Limburg	293,000	Maestricht	18,500
Antwerp	250,000	Antwerp	62,000
East Flanders	602,000	Ghent	60,000
West Flanders	521,000	Bruges	45,000
Hainault	431,000	Mons	18,000
South Brabant	366,000	Brussels	80,000
Liege	355,000	Liege	50,000
Namur	157,000	Namur	15,000
Luxemburg	226,000	Luxemburg	10,000

Adding the military, which the above enumeration does not include, we shall have the following estimate of the population of the three great divisions of this kingdom:—

Divisions.	Extent in sq. miles.	Popula- tion.
Dutch Provinces	11,000	2,000,000
Belgic Provinces	11,300	3,000,000
Grand Duchy of Luxemburg	2,100	226,000
Total	24,400	5,226,000

The northern and western districts of this kingdom form a vast marshy plain, intersected by dykes and canals, and varied only by the rich pasturage, clusters of willows and other trees, the grazing cattle, towns and villages. Wherever from some erection of art, as a tower or steeple, an extensive view can be obtained, this is uniformly the kind of landscape presented to the eye: the southern and south-east provinces are more varied. There can be little doubt of the northern provinces having once formed part of the bed of the sea; but of this there is no positive datum. The earliest accounts on the contrary represent the land as more extensive than at present. The river Yssel, it appears, ran in former times into an inland lake called *Flero*, from which a river issued and had a course of fifty miles to the sea; but the site of this lake, and the surrounding country, are now, and have for many centuries been covered by the *Zuyder Zee*: the only remains of the old track of continent seem the islands of *Texel*, *Vlieland*, *Schelling*, and *Ameland*.

In the tenth century the mouths of the 'lazy Scheldt' are known to have expanded, and to have formed the islands of *Beveland*, *Walcheren*, and *Schowen*; while so lately as the fifteenth century a great lake was formed suddenly on the south-east of *Dort*, overwhelming no fewer than seventy-two villages and 100,000 inhabitants. Since this period the Dutch have fenced their coasts with high mounds of earth, sloping on each side, and broad enough at top to admit the passage of two carriages; all the great rivers are fenced with similar dykes, the expense of keeping which in repair is very considerable. Goldsmith has admirably depicted the entire scene.

Onward methinks, and diligently slow,
The firm connected rampart seems to grow;
Spreads its long arms amid the watery roar,
Scoops out an empire and usurps the shore:
While the pent ocean, rising o'er the pile,
Sees an amphibious world beneath him smile;
The slow canal, the yellow-bosomed vale,
The willow-tufted bank, the gliding sail,
The crowded mast, the cultivated plain,
A new creation rescued from his reign.

No rivers of any magnitude take their rise in this country; but it is the outlet of various noble streams; the chief are the *Rhine*, the *Meuse*, and the *Scheldt*. The first, however, when it enters the Netherlands, through the centre of

which it flows from E. to W. is but a sluggish stream, and soon after divides into two branches, having none of the picturesque scenery of the German Rhine on their borders. One of these forms the Waal. Before reaching Arnheim it meets with another impediment that divides the stream; one branch assuming a northern direction, under the name of the Yssel, and flowing into the Zuyder-Zee. It soon afterwards divides a third time; the main arm forming the Leck and joining the Waal above Rotterdam; while that which retains the original name becomes reduced to an insignificant stream, passing Utrecht and Leyden in its course to the sea.

The Meuse enters the southern part of Namur from the French frontier. Its direction at first is nearly north and south; but, having intersected this province, it winds to the north-east, flows through Liege and Limburg, and then sweeping round to the west, encircles the northern border of North Brabant and opens a wide estuary into the sea in South Holland. The scenery on its banks between Namur and Maestricht is perhaps the most pleasing of any in the Netherlands. It has several tributaries, and passes various large towns in its extended course.

The Scheldt enters the Netherlands to the west of the Meuse and passes Ghent in its course towards Antwerp. Soon after leaving that town, it has regular tides, and divides into the east and west Scheldt, which form the island of Zealand. The inferior rivers and canals, particularly the latter, have long been the glory of this part of Europe; they are so numerous in the northern provinces that to enumerate them would be an endless task. The country is so level that scarcely a lock is necessary: they facilitate internal commerce, and connect, by means of the rivers, Germany and France.

The lakes of the Netherlands much resemble the *meres* of our fen countries, and bear occasionally this name. Haarlem Mere is the principal of them, situated in the province of Holland, between the Zuyder Zee and the ocean. It is about twenty miles in length, and from twelve to fifteen in breadth, and communicates with the south-western extremity of the Zuyder Zee; it is navigable for small vessels. Another lake of this kind, whose formation we have noticed, is formed by the waters of the Meuse and Rhine, near Dort, at the southern extremity of the same province, and is connected with the sea by the estuary of the former river. Several meres are also found in Friesland, Groningen, and the other provinces. We should not omit to notice the general character of the navigation of this singular coast, which is often rendered dangerous by the numerous sand-banks. Its best ports are Flushing, Helvoetsluys, and Rotterdam. Amsterdam is one of the best harbours, when entered, in Europe; but the Pamphus sand-bank at its mouth is very dangerous, and has often been fatal to large vessels. The Texel is also a good roadstead; and Middleburg a tolerable artificial harbour.

The climate of the northern districts is cold and humid; a dense fog covering the whole face of nature longer than in most other parts of Europe, and the rivers, lakes, and harbours

being often frozen, when those on this side the channel are open. In the south-eastern parts the air is more pure, and its summers are often warmer, although its winters are colder than in the south of England.

The general observer finds the soil of the Netherlands composed, with few exceptions, of a sandy loam in the southern, and of a dark marshy nature in the northern, provinces. In the latter, as in our fen countries, it is fruitful in pasturage; but in many parts of the former every variety of soil adapted for the pursuits of agriculture is found. Patches of clay, however, occur in the Belgic provinces; and portions of Namur, Luxemburg, and Liege, are stony: some districts in Brabant, Overysse, and Dreunthe, are entirely covered with heaths, forests, and marshes; a great part of Groningen is occupied by the barren heath of Bourtang. On the whole, however, through the great attention that has been paid to agriculture, this has long been one of the most productive parts of Europe; and its agricultural improvements and implements are only inferior to those of the most enlightened and favored parts of England.

The vegetable productions are very similar to those of this country; but in some of the northern provinces there is a strong predilection for the cultivation of madder and tobacco; and in the southern, hemp and flax are a more common crop than with us. Considerable attention has been paid in Holland to the cultivation of flower roots and seeds; and the gardens of various parts of Europe receive many of their most beautiful bulbs and seeds hence. Near Haarlem more than twenty acres are dedicated to the culture of hyacinths alone, and a large portion of ground to that of tulips. The weekly amount of the sales of these flowers at Amsterdam has sometimes been 15,000 florins.

According to Harte, about the beginning of the seventeenth century, the Flemings dealt more in the practice of husbandry than in publishing books upon the subject: 'so that, questionless, their intention was to carry on a private lucrative trade without instructing their neighbours; and hence it happened that whoever wanted to copy their agriculture was obliged to travel into their country, and make his own remarks; as Plattes, Hartlib, and Sir R. Weston actually did.' To make a farm resemble a garden as nearly as possible was at this time their principal idea of husbandry. Such a principle, at first setting out, led them of course to undertake the culture of small estates only, which they kept free from weeds, continually turning the ground, and manuring it plentifully and judiciously. Having thus brought the soil to a just degree of cleanliness, health, and sweetness, they ventured chiefly upon the culture of the more delicate grasses, as the surest means of acquiring wealth in husbandry, upon a small scale, without the expense of keeping many draught horses or servants. After a few years they soon found that ten acres of the best vegetables for feeding cattle, properly cultivated, would maintain a larger stock of grazing animals than forty acres of common farm-grass: and the vegetables they chiefly cultivated for this purpose were lucerne, saintfoin, trefoils

of most denominations, sweet fenugreek (*trigonella*), buck and cow wheat (*melampyrum pratense*), field turnips, and spurry (*spargula*), by them called marian-grass. The political secret of their husbandry was, the letting farins on improvement. Add to this, they discovered eight or ten new sorts of manures. They were the first among the moderns, who ploughed in living crops for the sake of fertilising the earth, and confined their sheep at night in large sheds built on purpose, whose floor was covered with sand, or earth, &c., which the shepherd carted away every morning to the compost-dunghill. Such was the chief mystery of the Flemish husbandry. 'The present state of agriculture in the Netherlands,' says Mr. Loudon, 'corresponds entirely with the outline given by Harte, and it has probably been in this state for nearly 1000 years.'

The country has lately been visited with a view to its rural economy by Sir John Sinclair, and minutely examined and depicted by the Rev. Thomas Radcliff. To such British farmers as wish to receive a most valuable lecture on the importance of a proper frugality and economy in farming as well as judicious modes of culture, the writer just quoted recommends the latter work; we copy here the leading features of Flemish farming, as selected by him.

The climate of Flanders may be considered as the same as that of Holland, and not materially different from that of the low parts of the opposite coast of England. The surface of the country is every where flat, or very gently elevated, and some extensive tracts have been recovered from the sea. The soil is for the most part poor, generally sandy; but in various parts of a loamy or clayey nature. 'Flanders,' Mr. Radcliff observes, 'was in general believed to be a soil of extreme natural richness; whereas, with the exception of some few districts, it is precisely the reverse.' He found the strongest and best soil near Ostend; and between Bruges and Ghent some of the worst, being little better than a pure sand. From confounding the Dutch with the Flemish Netherlands, a good deal of confusion has resulted. On arriving in Flanders, he was informed that, 'with respect to culture, not only the English, but the French, confounded under the general name of Brabant or Flanders all the provinces of the Low Countries, however different might be their modes of cultivation; but that in Flanders itself might best be seen with what skill the farmer cultivates a bad soil (*un sol ingrat*), which he forces to return to him, with usury, a produce that the richest and strongest lands of the neighbouring provinces of Holland refuse to yield.' The districts described as East and West Flanders are bounded on the east by Brabant and Hainault; on the west by the German Ocean; on the north by the seas of Zealand, and the west Scheldt; and on the south by Picardy, or French Flanders. It is about ninety miles long, and sixty broad, and abounds with towns and villages.

The landed property here is not in large estates: very few amount to 2000 acres. It is generally freehold, or the property of religious or civil corporations. When the proprietor does not cultivate his own lands, which, however, is most

frequently the case, he lets it on leases; generally of seven, fourteen, or twenty-one years endurance, at a fixed money rent, and sometimes a corn and money rent combined. The occupier is bound to live on the premises, pay taxes, effect repairs, preserve timber, not to sublet without a written agreement, and to give the usual accommodations to an incoming tenant at the end of the lease. Leases of fourteen or twenty-one years are most common: there are scarcely any lands held from year to year, or on the metayer system. Estates are every where enclosed with hedges, and the fields generally small. Farmeries are convenient, and generally more ample in proportion to the extent of the farm than in England. On the larger farms a distillery, oil-mill, and sometimes a flour mill, are added to the usual accommodations. The buildings on a farm of 150 acres of strong soil, enumerated by Radcliff, are, 1. The farm-house, with an arched cellar used as dairy, an apartment for churning, with an adjoining one for a horse wheel to turn the churning machinery. 2. A small building for the use of extra laborers, with a fire place for cooking. 3. The grange or great barn, 130 feet long, by thirty-five feet wide. The ground floor of this structure, besides accommodating by its divisions all the horses and cows of the farm in comfortable stables, and furnishing two threshing floors for the flail, is sufficient also for a considerable depôt of corn in the sheaf, in two extensive compartments to the height of twelve feet, at which elevation an open floor of joists, supported by wooden pillars, is extended over the entire area of the barn, and is repeated at every five feet in height, to the top. Each floor is braced from the pillars, and not only forms a connexion of strength throughout the whole, but separates at the same time, without much loss of space, the different layers of corn, securing them from damage, by taking off the pressure of the great mass. 4. A house for farming implements, with granary over, and piggery behind. In the centre is the dunghill; the bottom of which is rendered impervious to moisture.

Of the Flemish mode of cultivating some particular crops we shall give a few examples. 'The drill husbandry has never been generally introduced in the Low Countries. It has been tried in the neighbourhood of Ostend, forty acres of beans against forty acres of drilled crop, and the result was considered to be in favor of the system. But the row culture, as distinguished from the raised drill manner, has been long known in the case of tobacco, cabbages, and some other crops. Wheat is not often diseased in Flanders. Most farmers change their seed, and others in several places steep it in salt water or urine, and *copperas* or *verdigris*. The proportion of *verdigris* is half a pound to every six bushels of seed; and the time in which the latter remains in the mixture is three hours, or one hour if cows' urine be used, because of its ammonia, which is considered injurious. The ripest and plumpest seed is always preferred for seed. Rye is grown both as a bread corn, and for the distillery. In Flanders frequently, and in Brabant very generally, the farmer, upon the scale of from 100 to 200 acres of light soil, is also a distiller, purely for

the improvement of the land by the manure of the beasts, which he can feed upon the straw of the rye, and the grains of the distillery. Buck-wheat enters into the rotations on the poorest soils, and is sown on lands not got ready in time for other grain. The chief application of buck-wheat is to the feeding of swine and poultry, for which it is pre-eminent; it is also used in flour; as a constituent in the liquid nourishment prepared for cattle and horses; and bears no inconsiderable share in the diet of the peasant. Formed into a cake, without yeast, it is a very wholesome, and not a disagreeable species of bread; but it is necessary to use it while fresh, as, if kept, it would turn sour sooner than bread made of barley, rye, or wheaten flour. Its blossom is considered to afford the best food for bees. If cut green it yields good forage, and if ploughed in when in flower, it is thought one of the best vegetable manures in use. It is also said to be used in distillation; but this is not generally admitted to be the case. Rape, colza, colsat, or cole seed, the *B. campestris* of Decandolle, and which he thinks a distinct species from the *brassica napus* of Linnæus, is considered an important article of Flemish agriculture. It is sometimes sown broad-cast, but the general and approved method is, by transplanting, which they allege, and apparently with great justice, to have many advantages: one is, that the seed-bed occupies but a small space, whilst the land which is to carry the general crop is bearing corn. By having the plants growing, they have time to harvest their corn, to plough and manure the stubble intended for the rape, which they put in with a dibble, or the plough, from the latter end of September to the second week of November, without apprehending any miscarriage.

The seed is sold for crushing; or, as is frequently the case, crushed by the farmer himself; an oil mill being a very common appendage to a farmery.

The oillette or poppy (*papaver somniferum*), is cultivated in some parts, and yields a very fine oil; in many instances of so good a quality as to be used for salad oil. The seed requires a rich and well manured soil. The crop is generally taken after rape, for which the ground has been plentifully manured; and for the oillettes it receives a dressing not less abundant. The seed is sown at the rate of one gallon to the English acre, and is lightly covered by shovelling the furrows. The average produce is about thirty Winchester bushels to the English acre. The seed is not so productive as rape, in point of quantity, but exceeds it in price, both as grain and as oil, by at least one-sixth. The measure of oil produced from rape is as one to four of the seed; that produced from the seed of the oillettes is as one to five. Red clover is also an important and frequent article in the Flemish rotations. The quantity of seed sown does not exceed six pounds one quarter to the English acre. The soil is ploughed deep and well prepared, and the crop kept very clear of weeds.

The turnip is not generally cultivated as a main crop, but generally after rye or rape, or some crop early removed. It is sown broad-cast, thinned, and hoed with great care; but it

affords a very scanty crop of green food, generally eat off with sheep in September or later. The Swedish turnip is unknown; and indeed the turnip husbandry, as practised in Britain, cannot be considered as known in Flanders. The potatoe was introduced early in the seventeenth century, but attracted little notice till the beginning of the eighteenth. It is cultivated with great care. The ground is trenched to the depth of nearly two feet; and small square holes having been formed, at about eighteen inches from each other, the set is deposited therein, the hole nearly filled with dung, and the earth thrown back over all. As the stalks rise they are earthed up from the intervals, and manured with liquid manure; and, as they continue to rise, they receive a second earthing round each distinct plant, which, with a suitable weeding, terminates the labor. Notwithstanding the distance between the plants, the whole surface is closely covered by the luxuriance of the stems, and the return is abundant. Potatoes are prized in Flanders, as being both wholesome and economical, and are considered so essential to the subsistence of a dense population that at one time it was in serious contemplation to erect a statue, or some other monument of the country's gratitude, to the person who first introduced them. They are also very much used in feeding cattle and swine.

On a sandy loam, the carrot is much valued, and flax is here cultivated with the greatest care. 'The field intended for this crop, after two or three ploughings and harrowings, is again ploughed, commencing in the centre, and ploughed round and round to the circumference, so as to leave it without any furrow. The heavy roller is drawn across the ploughing, by three horses; the liquid manure is then spread equally over the entire surface, and, when well harrowed in by eight or nine strokes of the harrow, the seed is sown, which is also harrowed in by a light harrow, with wooden pins of less than three inches; and the surface, to conclude the operation, is again carefully rolled. Nothing can exceed the smoothness and cultivated appearance of fields thus accurately prepared. The manure universally used for the flax crop demands particular notice. It is termed liquid manure, and consists of the urine of cattle, in which rape-cake has been dissolved, and in which the vidanges conveyed from the privies of the adjoining towns and villages have also been blended. This manure is gradually collected in subterraneous vaults of brick-work, at the verge of the farm next to the main road. These receptacles are generally forty feet long, by fourteen wide, and seven or eight feet deep, and in some cases are contrived with the crown of the arch so much below the surface of the ground as to admit the plough to work over it. An aperture is left in the side, through which the manure is received from the cart by means of a shoot or trough, and at one end an opening is left to bring it up again, by means of a temporary pump, which delivers it either into carts or tonneaus. The liquid is carried to the field in sheets or barrels, according to the distance. Where the cart plies the manure is carried in a great sheet called a voile, closed at the corners by running-strings, and secured to the four uprights

of the carts; two men, standing on each side of the cart, scatter it with hollow shovels upon the rolled ground; or, where the tonneaus are made use of, each is carried by two men with poles, and set down at equal intervals across the field in the line of the rolling. There are two sets of vessels, which enable the men who deposit the loaded ones to bring back the others empty. One man to each vessel, with a scoop, or rather a kind of bowl with a long handle, spreads the manure, so as to cover a certain space; and thus, by preserving the intervals correctly, they can precisely gauge the quantity for a given extent of surface. For the flax crop they are profuse; and of this liquid mixture, in this part of the country, they usually allow at the rate of 2480 gallons, beer measure, to the English acre.⁷

The hop is here cultivated on good soils after wheat. The plants are put in in the month of May, and are set, when the land has been four times ploughed, in rows, with intervals of six feet, and at six feet distance. In the month of October they raise the earth round each plant, in little mounds about two feet and a half high, for the purpose of encouraging a number of shoots, and of preserving them from frost. When all harsh weather has disappeared, about the beginning of April in the second year, they level these heaps, and take away all superfluous shoots at the root, leaving but four or five of the strongest. They then spread manure over the entire surface, at the rate of twelve carts of 1500 lbs. each, by the English acre, of cows' or swines' dung; and in the month of July give them a dressing of urine at the rate of 1000 gallons per acre. In August the crop has arrived at its perfection. Maddar, woad, and asparagus, are also favorite objects of culture.

The domestic economy of the Flemish farmer and his servants are thus depicted by Radcliff:— 'Nothing,' he says, 'tends more to the uniform advancement of good farming, than a certain degree of ease and comfort in those who occupy the soil, and in the laboring classes whom they employ. Without it, an irregular, speculative, and anticipating extraction of produce, always followed by eventual loss, is resorted to, in order to meet the emergencies and difficulties of the moment; whereas, under different circumstances, the successive returns of a well-regulated course, become the farmer's object, rather than the forced profit of a single year; whilst he himself is thus intrinsically served, his landlord secured, and his ground ameliorated. The laborious industry of the Flemish farmer is recruited by intervals of decent and comfortable refreshment; and the farm-servants are treated with kindness and respect. They uniformly dine with the farmer and his family, at a clean table-cloth, well supplied with spoons, with four-pronged forks, and every thing necessary for their convenience. In Flanders, the gentlemen are all farmers, but the farmers do not aspire to be gentlemen; and their servants feel the benefit. They partake with them of a plentiful and orderly meal, which varies according to circumstances. One standing dish, however, is universal, a soup, composed of buttermilk, boiled and thickened with flour, or rye-bread, potatoes, salt pork, salt fish, various

vegetables, and eggs; fresh meat and fresh fish occur occasionally, though not for daily consumption; add to these a plentiful supply of butter, or rendered lard, which is sometimes substituted; and, when it is recollected that those articles of provision are always made palatable by very tolerable cookery, it will be allowed that the farmer's table is comfortably supplied. The potatoes are always peeled, and are generally stewed in milk; a particular kind of kidneybean, as mentioned before, the feve haricot, sliced and stewed in milk also, is a frequent dish. No farmer is without a well-cultivated garden, full of the best vegetables, which all appear at his own table; and apples are also introduced into their cookery. The great fruit and vegetable markets of the towns are supplied by gardeners, who make that their subsistence; but the gardens of the farmers, unless in case of redundancy, are cultivated wholly for their own consumption.⁷

In Holland the soil in the low districts may be regarded as a rich deep sandy mud; sometimes alluvial, but more frequently siliceous, mixed with rotten shells. In a few places there are beds of decayed trees; but rough gravel or rocks, it is said, no where. Of the inland provinces the soil is in general a brown or black sand, naturally poor. Here as in Flanders the landed property is in moderate or rather small divisions; in the richer parts the farms are of from twenty to 150 or 200 acres farmed by the proprietor: in the interior both estates and farms are larger; and instances occur of farms of 500 or 700 acres.

The agriculture is here chiefly a system of pasturage and dairy management for the production of butter and cheese; the latter well known in every part of the world. Almost the only objects of tillage, according to Mr. Loudon, are some madder, tobacco, and herbage plants and roots for stall-feeding the cattle. The pastures, and especially the lower meadows, produce a coarse grass, but in great abundance. The cows are allowed to graze at least a part of the day throughout the greater part of the year, but are generally fed in sheds once a day or oftener, with rape-cake, grains, and a great variety of other preparations. Their manure is preserved with the greatest care, and the animals themselves are kept perfectly clean. The breed is large, small legged, generally red and white, with long but small horns; they are very well known in England as the Dutch breed. The fuel used in Amsterdam and most of the towns is peat, and the ashes are collected and sold at high prices, chiefly to the Flemings, but also to other nations. A considerable quantity has been imported to England; they are found excellent as a top dressing for clovers and other green crops, and are strongly recommended by Sir John Sinclair and other writers. The cow-houses in Flanders and Holland are kept remarkably clean and warm; a gentleman 'spoke,' to Radcliff 'of having drank coffee with a cowkeeper in the general stable in winter, without the annoyance of cold, of dirt, or any offensive smell.' The Dutch were particularly averse to unfolding their dairy secrets, notwithstanding the pointed queries of Sir John Sinclair. Other parts of the Dutch culture and economy correspond with those of the Netherlands.

The horses as well as cattle are large, and in some parts the sheep are good, but this branch of rural economy seems not to have been sufficiently attended to in many districts. The wild animals afford few materials for description. The common kinds of game are found in most districts, and the stork, with a few other rare birds unknown in England, visit the coasts.

Sir John Sinclair visited this country in 1815 with the purpose of 'ascertaining whether it was not in our power to put an end to that extraordinary difference between the prices of grain in Britain and Flanders, or at any rate to bring it nearer its former standard.' He concludes that there is every reason to hope this may be accomplished 'provided proper attention is paid to the various particulars enumerated in the preceding pages, and more especially to the following:—to a change of seed from the continent; the importation of Dutch ashes for our clover and other crops; the use of salt for agricultural purposes; a diminution of fallows; more attention to weeding and to manures; a more general culture of flax and rape; and, above all, to the means by which the diseases of wheat, and the mildew in particular, can be most effectually prevented.'—*Tract on Flemish Agriculture*, p. 85. We fear Sir John is abundantly sanguine in this hope, but the improvements he suggests are worth attention.

The southern provinces alone are favored with minerals. Namur affords iron. Limburg has mines of calamine and zinc; and valuable beds of coal have been discovered in the district that stretches from Maestricht to Charleroi. Several kinds of stone and marble are also obtained in some of the hilly tracts that accompany the course of the Meuse. The only mineral waters of note in this kingdom are those of Spa, in the eastern part of the county of Liege, and about twenty-five miles south of Aix-la-Chapelle. They were discovered in the early part of the fourteenth century, and issue from five separate springs; but their celebrity is much eclipsed by that of Aix-la-Chapelle.

The Netherlands have long taken the lead of all the neighbouring states in trade and manufactures. The Dutch linen, the lace of Brussels, the silks of Amsterdam and Antwerp, the leather of Liege, and the woollens of Leyden and Utrecht, have been well known throughout Europe for ages. When, in the sixteenth century, the northern provinces withdrew from the Spanish government, an impulse was given to the trade of Holland, which civil and religious liberty has ever since greatly maintained. It became a refuge to persecuted Protestants; and the succeeding civil wars of France and Germany brought a number of valuable settlers into the country, who established staples at Mentz, Spire, Cologne, and other places, and supplied the west of Germany with fish, colonial produce, and manufactures. The principal article received in return was timber, which is still floated down the Rhine in immense rafts. Their carrying trade extended to almost all parts of Europe: even in several other countries, as in Ireland, Dutch merchantmen sailed from port to port, and performed the coasting trade, while the inhabitants seldom ventured on the sea. From the south of

Europe Holland received wine, brandy, fruit, and wool; and, from the north, corn, hemp, flax, iron, and timber, to supply the wants of the south. Articles were thus obtained generally as cheap, and almost in more convenient portions in Holland, than in the countries of their growth. In her fisheries, particularly the herring fishery, the number of vessels employed by Holland is said to have exceeded that of all the rest of the world. Their direct colonial trade was of later growth. That to the West Indies, though partly in the hands of a company, was under little restriction: their East India Company was formed in 1621, and was a similar one to the great association of the present age in Britain. The transactions of the Dutch with America, and the coast of Eastern Africa, were likewise extensive. Holland was thus, in the seventeenth century, very similar to England in the eighteenth: but her wealth, though great, was reputed to be greater than it really was: her territorial riches were never great, and her decline, is represented by able writers, as rather relative than absolute, the Holland of the present age being not much poorer than the Holland of a century ago. The wars into which the Dutch were compelled with Spain, France, and England, first caused an enormous increase of public debt: thence an enhancement of labor, and a reduction of their manufactures and navigation took place; but, above all, the tyranny of Buonaparte, after 1810, concurred to bring this once flourishing country to the brink of ruin. From this it was rescued by the events of 1814, and since then the commerce of the Netherlands has been again free, and comparatively flourishing. Their colonial establishments in different parts of the world are at present, in Asia, the island of Java, with the governments of Amboyna, Banda, Ternate, Malacca, and Macassar, as well as the factories on the coast of Coromandel and Persia. In Africa they have thirteen small forts on the coast of Guinea. In the West Indies they possess the islands of Curaçao, St. Eustatius, and St. Martin, with the colony of Surinam, on the mainland of South America, and the right of sending stores and receiving produce from Demerara, Essequibo, and Berbice.

The following is a table of the number of vessels that arrived from various ports at Amsterdam, Antwerp, and Flushing, in 1817:—

AMSTERDAM.			
From	Ships.	From	Ships.
Archangel	. 70	Konigsberg	. 196
Bremen	. 74	Lieban	. 16
Copenhagen	. 16	Lisbon	. 23
Dantzic	. 144	Leghorn	. 99
Dramme	. 72	London	. 87
Drontheim	. 12	Lubeck	. 25
Elbingen	. 80	Memel	. 85
Emdben	. 33	New York	. 1
Frederickstadt	10	Petersburgh	. 169
Gluckstadt	. 12	Pillau	. 69
Hamburg	. 143	Riga	. 323
Havre	. 16	Rostock	. 30
Hull	. 30	Stettin	. 18
Husum	. 16	Surinam	. 21
Itzehoe	. 80	Swenburg	. 59
Kiel	. 56	Wismar	. 12

The whole number that arrived during the year, including those not in the above list, was 3077. The number that entered the port of Antwerp was 999, and of Flushing 844, more than one-fourth of which were British.

We are indebted for the above table to Mr. Myers's *able Geography*, which adds, 'The money of the Netherlands is of two kinds, the one national, the other private. By the laws of the Netherlands the decimal system is in force throughout the kingdom. By this law the money of the state consists of legal coins of gold, silver, and copper, and of coins for the use of commerce, which are of gold and silver. The unit of money is the florin. The gold piece of ten florins, with the subdivisions of the florin in silver, and the copper money, can only be coined for government; the other money, mentioned below, may be coined on the account of private persons. The money formerly in use, both in the northern and southern provinces, still continues to circulate, as before their union into one kingdom.—The value of these monies is either currency or banco. Commercial transactions are carried on in currency; while the banking business and the exchanges are transacted in banco, which is from four to five per cent better than currency.' See our article *COINS*.

The government of the Netherlands is now a limited monarchy, in which the executive power is solely vested in the king; whose person is sacred, and his ministers only are responsible, as in England: the existence also of a cabinet and privy council, and of two houses of parliament, are further resemblances to our constitution. In the provincial states, or parliaments, to whom the administration of various local affairs is entrusted, the federative system that was previously established in the northern provinces is retained. The members of the upper house of the national parliament are nominated by the king for life. Their age must exceed forty; and their number must be between forty and sixty. In the article on this subject is the following clause:—'The members of the first chamber receive, for the whole indemnity of their travelling expenses and their abode, the sum of 3000 guilders per annum.' The lower house is elected by the provincial states; and one-third of the members are renewed annually. Their number is 110, and each receives a yearly salary of 2500 guilders, or about £220. Though the population of the two parts of the kingdom is very different, each sends the same number of representatives to the states general, which for the several provinces are,

Belgic Provinces.	No. of Representatives
South Brabant	8
Limburg	4
Liege	6
East Flanders	10
West Flanders	8
Hannault	8
Namur	2
Antwerp	5
Luxemburg	4
	—
	55

All bills for new laws require the sanction of the crown before they can be introduced into the legislative assembly. The provincial states are appointed for each province, and 'are charged with the execution of the laws relative to its exterior exercise; also those relative to public instruction; to the administration of charitable institutions; to the encouragement of agriculture, of commerce, and manufactures.' They also superintend generally the internal economy of the province. The liberty of the press is nearly the same in the Netherlands as in Britain; and religious liberty is complete here; not even test laws of any kind being tolerated.

The administration of justice is regulated by a variety of local customs and statutes, the ordinances of the states general, and the Roman law. To complete this confusion the French code was introduced when the country became a part of that empire, and is partially retained. The judges are appointed by the king on the recommendation either of the states general or of the provincial states, and hold their situations for life. The inferior courts are numerous, and from these there are courts of appeal; the superiors of which are at the Hague, Brussels, and Liege. All sit in public.

The standing *army*, during peace, amounts to about 50,000 men, many of whom are either Swiss or Germans; the navy is reduced to twelve sail of the line, and about twenty-five frigates. The annual revenue of the kingdom is about £7,000,000, or nearly equal to the current expenditure. The navy requires £500,000, the army £2,500,000, and the church establishment about £270,000. The national debt is about £140,000,000, at the interest of only two, or two and a half per cent.

The Belgic provinces are still Catholic, and the Dutch, including the reigning family, have long been Calvinistic Protestants. In their religious system free toleration has always been a distinguishing feature; but it is only of late that it has been introduced into Belgium, and it is far from being agreeable either to the people or priests. By the concordat concluded between Buonaparte and the pope the Belgic provinces comprise two archbishoprics, and nine bishoprics. The archbishop of Mechlin is the metropolitan.

Education and literature are creditably promoted in this kingdom. Parish schools are established under the protection of government; while those of a superior description, both public and private, are found in every province. No person can undertake the instruction of youth

Dutch Provinces.	No. of Representatives.
North Brabant	7
Guelderland	6
Holland	22
Zealand	3
Utrecht	3
Friesland	5
Overyssel	4
Groningen	4
Drenthe	1
	—
	55

without first being examined by a proper commission. The subject of education is divided by this commune into four gradations, according to the branches to be taught, and no person who has only passed his examination for a lower grade can assume the duties of a higher. In the large towns there are royal schools, resembling the lycées of France, in which the languages and sciences are taught by approved masters. The number of universities is six, viz. Leyden, Utrecht, Groningen, Louvain, Ghent, and Liege. There are also institutions called Athenæ, established at Amsterdam, Brussels, Middleburg, Franeker, Harderwyk, Deventer, and Breda, which only differ from the universities in not having the power of conferring degrees. There is likewise a military school at Dort, and a naval academy at Helvoetsluys, with various separate provincial institutions for law and medicine. French is generally spoken in the south, where it has superseded the native tongue.

Among the Dutch literati of past days, Erasmus and Grotius, Grævius and Burman, are entitled to hold a high rank; Huygens, Boerhaave, Von Swieten, Leuenhoeck and Swammerdam are also names of just weight in the exact and liberal sciences; their only tragic poet of eminence is Vondel, who flourished in the seventeenth century. The celebrated Flemish painters we cannot here enumerate; their fame is well known throughout every part of the civilised world, and is the great and cherished pride of the country.

The Dutch are proverbially phlegmatic, patient, and penurious. The infatuation of loving money, not as a mean, but as an end, is said to be paramount in the mind of almost every Dutchman, whatever be his other dispositions and qualities; the addiction to it is fervent, inveterate, invincible, and universal. The Belgians are of less uniform character: the most conspicuous feature here perhaps is a Spanish love of religious ceremony, and superstition. The dress of all but the sailors and lower classes in Holland resembles the English, though generally made of coarser materials. In a few instances the large small-clothes of the men, with the jerkins, mob caps, enormous hats, and short petticoats, of the females are retained. Mrs. Radcliff thus describes the dress of a rustic group:—“Several women were collected about their baskets of herbs, and their dress had some of the novelty for which we were looking; they had hats of the size of a small Chinese umbrella, and almost as gaudily lined within; close white jackets, with long flaps; short, colored, petticoats, in the shape of a diving-bell; yellow slippers, without quarters at the heel; and caps that exactly fitted the head, and concealed the hair, but which were ornamented at the temples by gold filagree clasps, whirling like vine tendrils over the cheeks of the wearer.” All travellers speak of the cleanliness every where apparent. As to their amusements, a little of athletic exercise fatigues or disturbs them; but the theatres are well supported; and the pipe and the bottle, either in the little summer-house, where they look at the canal, or by the fire in winter, is a perpetual and never-failing source of amusement. Cards, drafts,

chess, backgammon, are all in use. Tea-gardens are much frequented on Sundays and holidays; and the Musicos on a Sunday evening. The domestic virtue of the females is, finally, a great topic of praise, and the great body of them are said to be deserving of it.

The Netherlands were attached to the Roman empire, at least all the southern and central part, under the name of Belgia, until its decline in the fifth century. Barbarians from the right bank of the Rhine then established themselves here, and they were for a length of time a portion of the kingdom of Austrasia. In the twelfth and following century we find them governed by their own counts and earls, similarly with HOLLAND, see that article. They were then incorporated with the possessions of the dukes of Burgundy, and passed to Maximilian of Austria, father of Charles V. The latter united the seventeen provinces into one state, and published in 1549, a law, enacting that they should in future be all governed by the same sovereign. This he presumptuously styled an ‘irrevocable and perpetual’ statute for their future government: but like other Medo-Persian laws the tyranny that promulgated was itself destined to destroy its resolves. The bigotry of the bloody Philip II. produced the memorable revolt of the Dutch provinces, and was the cause of great dissension in all the others. Until the middle of the seventeenth century, however, they continued attached to the Spanish crown, when the activity of Conde, and the tactics of Turenne, were exerted to add them to France. In this project Louis XIV. was succeeding rapidly, when a temporary stop was put to it in 1668, by the quadruple alliance concluded at the Hague by Sir W. Temple; in the long wars from 1672 to 1679, and from 1689 to 1697, the Netherlands were the great prize contended for. At last, in 1702, Louis obtained by diplomatic tricks what he had so long sought in vain by arms; but the talents of our great Marlborough redeemed the errors of the court of Spain; and by the battle of Ramillies, in 1706, the Netherlands were placed at the disposal of the allies, and by the peace of Utrecht assigned to Austria. Thus they remained until the war of 1741, when the French under marshal Saxe recovered what the last generation had lost: Bergen-op-Zoom fell: Maestricht was about to follow, and the Dutch frontier was likely to be invaded, when the naval successes and persevering spirit of England procured the peace of Aix-la-Chapelle, and the restoration of the Netherlands to the emperor. In 1756 Austria having secretly agreed to cede the Netherlands to France, though the design was frustrated, England became convinced that Austria was not the power to be finally entrusted with this deposit; yet it was not until the wars of the French revolution that they were wrested from her. But at its commencement, indeed in the first campaign of 1792, Austria lost the Netherlands, and, though they were recovered in 1793, they passed again to France in 1794, and were held by an apparently firm tenure until the destruction of the French army in Russia, in 1812. During the first reverses of France, Germany occupied all the attention of the allies; but in

1814 the Netherlands were detached by the restoration of the Bourbons.

While we now write (October 1830) a new and important revolution has taken place in this country. The Belgians, discontented with the dynasty of Orange Nassau on account of the oppressive taxation and the attempts of the king to control the education of the catholic clergy, suddenly had recourse to arms, and by the 28th of September had acquired the full command in Brussels. The prince of Orange was commissioned by the king to enquire into the grievances of the people, who insisted on the immediate abolition of the obnoxious taxes and the legislative separation of their country from Holland, though they had no objection to be governed by the house of Orange. The king then referred the question to an extraordinary sitting of the states general, who, before they would at all enter into the matter, required the Brussellois to lay down their arms. Prince Frederick marched on to Brussels to enforce the mandate of the states, and was repulsed with great loss. A provisional government is now established, who propose a federative union with Holland, the result of which will be their entire liberation from the arbitrary control of that country. see BELGIUM.

NETSCHER (Gaspard), an eminent painter born at Prague in 1639. His mother was obliged, on account of her religion, to leave Prague with her three sons. When she had proceeded three leagues, she stopped at a castle; which being soon after besieged, two of her sons were starved to death; but she escaped out of the fortress by night, and saved her only remaining child. Carrying him in her arms, she reached Arnheim in Guelderland, where she supported herself, and brought up her son. At length a physician took young Netscher under his patronage, with the view of giving him an education proper for a physician: but, Netscher's genius leading him to painting, he could not forbear scrawling out designs upon the paper on which he wrote his themes; whereupon he was sent to a glazier, who was the only person in the town that understood drawing, and afterwards to Deventer, to a painter named Terburg, who was an able artist; and, having acquired under him a great command of his pencil, went to Holland, where he worked a long time for the dealers in pictures, at very low prices. He then resolved to go to Rome; and for that purpose embarked on board a vessel bound for Bourdeaux. But his marrying in that city prevented his travelling into Italy: and therefore, returning into Holland, he settled at the Hague; where he applied to portrait-painting, and acquired such reputation that he was much employed, and his portraits are still to be seen all over Europe. He died at the Hague in 1684.

NETTINGS, in a ship, are a sort of grates made of small ropes, spliced together with rope-yarn or twine, and fixed on the quarters and in the tops; they are sometimes stretched upon the ledges from the waste trees to the roof-trees, from the top of the fore-castle to the poop, and sometimes are laid in the waste of a ship to serve instead of gratings.

NETTLE, *n. s. & v. a.* Sax. *netel*. A well

known stinging herb: to nettle is, to sting; to irritate.

The strawberry grows underneath the nettle.

Shakspeare.

And now, when he hears the fame of a king born, whom a star from heaven signifies and attends, he is nettled with the news.

Bp. Hall.

Some so like to thorns and nettles live,
That none for them can, when they perish, grieve.

Waller.

The princes were so nettled at the scandal of this affront that every man took it to himself.

L'Estrange.

Although at every part of the Apostle's discourse some of them might be uneasy and nettled, yet a moderate silence and attention was still observed.

Bentley.

NETTLE, in botany, see URTICA.

NEVA, a river of Russia, which issues from the great lake Ladoga; and, after a course of about thirty-five miles to the westward, empties itself, by three mouths, into the Gulf of Finland, below St. Petersburg. It is from 300 to 400 yards wide, and from ten to fifteen feet deep, consequently navigable for vessels of considerable size. It is the Thames of St. Petersburg, the water being used for drinking, cooking, and drainage, throughout that city. The Neva is generally frozen from the end of October till April.

NEVADA, or SIERRA NEVADA, i. e. the Snowy Range, a chain of mountains in the south of Spain, forming the most elevated range in the peninsula. In the vicinity of the Sierra de Filabres, it branches off from the great Iberian chain, runs through Granada and Andalusia from east to west, and terminates on the shores of the Mediterranean, in several promontories, of which Gibraltar is the most remarkable. The loftiest peak is the Cumbre de Mulhacen, said to rise to 13,600 feet.

NEUBURGH or NEWBURGH (William of), Gulielmus Neubrigensis, a monk of the abbey of Newborough, born at Bridlington in Yorkshire, in 1136, is also called Parvus, or the Little, but whether this be a surname or appellative is doubtful. He wrote a chronicle, published with Picard's notes at Paris in 1610, 8vo., then by Gale, and lastly by Hearne, 3 vols. 8vo. 1719. He attacks Geoffery of Monmouth in good but bitter language attributed to his disappointment at not succeeding to the bishopric of St. Asaph: he is also sufficiently credulous as an historian.

NEUBURG, called also the Younger Palatinate, a late duchy of the German empire, belonging to Bavaria, was divided into two parts, the western, lying on both sides of the Danube, between Suabia and Franconia; the eastern, called also the Nordgau, stretching along the frontier of the Upper Palatinate. The extent of the whole was 1080 square miles; and the population 102,000. In 1808 the whole was included in the Bavarian circles of the Upper Danube and the Regen. This territory is fertile and well cultivated. It contains some iron works; but the principal manufactures are hemp and flax. The duchy long belonged to a branch of the house of Bavaria; which succeeded to the electorate in 1742.

NEUBURG, a well built town of Germany on

the Danube, stands on a pleasant eminence. There is a good bridge over the river, and near it is the old ducal palace, a respectable building. The council-house stands in a square, surrounded with trees. Here is also a collegiate church, college, hospital, and an orphan-house. The town is also the seat of a court of appeal. It was formerly fortified, and repeatedly besieged; but was dismantled in the early part of the eighteenth century. Population 4000. Eleven miles west of Ingolstadt.

NEVE (Timothy), an English divine, born in Shropshire, and educated at Cambridge. He was prebendary of Lincoln, archdeacon of Huntingdon, and rector of Alwalton, where he died, in 1740. He wrote an *Essay on the Invention of Printing*, and the earliest English printers.

NEV'ER, *adv.* } Sax. næfpe; not ever;

NEV'ERTHELESS, *conj.* } at no time; in no degree; much used in composition. Dr. Johnson says, 'It is used in a form of speech handed down by the best writers, but lately accused, I think with justice, of solecism: as, he is mistaken though never so wise. It is now maintained, that propriety requires it to be expressed thus, he is mistaken though ever so wise; that is, he is mistaken how wise soever he be. The common mode can only be defended by supplying a very harsh and unprecedented ellipsis; he is mistaken though so wise, as never was any; such however is the common use of the word among the best authors.'

Peter seith to him, thou shalt *nevere* waische my feet. *Wicklif. Jon. 13.*

Ask me *never* so much dowry and gift, and I will give according as ye shall say. *Genesis.*

He answered him to *never* a word, insomuch that the governor marvelled. *Matthew xxiv. 17.*

Ones have the windes the trees dispoysed clene,

And ones again begin their crueltiesse,

Sins I have hid under my brest the harme,

That *never* shall recouer healthfulness.

Surrey. Description of the restless state of a Louer.

Be it *never* so true which we teach the world to believe, yet, if once their affections begin to be alienated, a small thing persuadeth them to change.

Hooker.

They plead that even such ceremonies of the church of Rome as contain in them nothing which is not of itself agreeable to the word of God, ought *nevertheless* to be abolished. *Id.*

They destroyed all, were it *never* so pleasant, within a mile of the town. *Knolles.*

Nature assureth us by *never-failing* experience, and reason by infallible demonstration, that our times upon the earth have neither certainty nor durability. *Raleigh.*

In a living creature, though *never* so great, the sense and the effects of any one part of the body instantly make a transcurtion throughout the whole body. *Bacon.*

Many of our men were gone to land, and our ships ready to depart; *nevertheless* the admiral, with such ships only as could suddenly be put in readiness, made forth towards them. *Id.*

But a smooth and stedfast mind,

Gentle thoughts and calm desires,

Hearts with equal love combined,

Kindle *never-dying* fires. *Carew.*

Death may be sudden to him, though it comes by *ever* so slow degrees. *Duty of Man.*

Never, alas, the dreadful name

That fuels the infernal flame. *Cowley.*

Ye myrtles brown, with ivy *never* sear,
I come to pluck your berries harsh and crude.

Milton.

Our heroes of the former days,
Deserved and gained their *never-fading* bays.

Roscommon.

So corn in fields and in the garden flowers,
Revive and raise themselves with moderate showers,
But, over-charged with *never* ceasing rain,
Become too moist. *Waller.*

Your *never-failing* sword made war to cease,
And now you heal us with the acts of peace. *Id.*
Not Thracian Orpheus should transcend my lays,
Nor Linus crowned with *never-fading* bays.

Dryden.

Leucippus with his *never-erring* dart.

Id.

Farewell, ye *never-opening* gates. *Id.*

Whosoever has a friend to guide him may carry his eyes in another man's head, and yet see *never* the worse. *South.*

Creation must needs infer providence; and God's making the world irrefragably proves that he governs it too; or that a being of a dependent nature remains *nevertheless* independent upon him in that respect. *Id.*

By its own force destroyed, fruition ceased

And, always wearied, I was *never* pleased. *Prior*

He to quench his draught so much inclined,
May snowy fields and nitrous pastures find;
Meet stores of cold so greedily pursued,
And be refreshed with *never-wasting* food.

Blackmore.

He that shuts his eyes against a small light,
would not be brought to see that which he had no mind to see, let it be placed in *never* so clear a light and *never* so near him. *Atterbury.*

Never was any thing so unbred as that odious man.

Congreve.

Death still draws nearer, *never* seeming near.

Pope.

Norton hung down his *never-blushing* head,
And all was hushed, as Folly's self lay dead. *Id.*

What the weak head, with strongest bias, rules
Is pride, the *never-failing* vice of fools. *Id.*

That prince whom you espouse, although *never* so vigorously, is the principal in war, you but a second.

Swift.

Thy busy *never-meaning* face,

Thy screwed up front, thy state grimace. *Id.*

And I'm the sovereign of Scotland,

And mony a traitor there;

Yet here I lie in foreign bands,

And *never-ending* care. *Burns.*

Never hold any one by the button or the hand in order to be heard out; for, if people are unwilling to hear you, you had better hold your tongue than then.

Chesterfield.

Men from England bought and sold me,

Paid my price in paltry gold:

But, though slave they have enrolled me,

Minds are *never* to be sold. *Cowper.*

NEVERS, *NOVIDIUM*, a large and ancient post town in France, the chief place of the prefecture of the department of the Nièvre, in the arrondissement of the same name, containing 14,500 inhabitants. It has an inferior court of judicature, a board of trade and manufactures, a central agricultural society, a society of arts and sciences, and a communal college; and is under the royal court of Bourges. This town stands in a fine situation, on the right bank of the Loire, at the confluence of the Nièvre. It is built in the form of an amphi-

theatre, upon the declivity of a hill, and presents a very picturesque aspect. The interior has nothing remarkable; the streets are narrow, crooked, and for the most part steep: in the centre stands the ancient castle of the dukes of Nevers, in a very large square. The public walk, called the Park, is very pleasant.

Manufactures are carried on here of coarse cloths, metal buttons, strings for violins, candles, glass, earthenware, brass-founding, leather, &c. There is a royal cannon-foundry. The trade consists in wood, iron, steel, coal, and charcoal, bright ironmongery, china, excellent delf, enamel, water-casks for the navy, wine, salt, and leather. The public library contains 6500 volumes; the bridge built over the Loire, the barracks, the arsenal, and the tower of the cathedral, are also worthy of notice. This is the native place of the poet Adam Billaut, called also Master Adam, and of the physician Chaumette, who was beheaded at Paris in 1793, at the age of thirty-one years. Nevers is eighty-eight miles south of Auxeme, forty-three north of Moulins, forty-eight W. S. W. of Bourges, and 174 south-east of Paris, in E. long. from that city 0° 49', and N. lat. 47°.

NEUFCHATEL, a canton of West Switzerland, bounded by Bern, the lake of Neufchatel, the Pays de Vaud, and a part of France. Its surface, in superficial extent about 340 square miles, is intersected by several branches of the Jura chain of mountains, &c. Here the climate is of course cold, the winter continuing during seven or eight months. Vines, however, are cultivated in the lower and sheltered parts, bordering on the Neufchatel Lake. The Val de Ruz, and the Val de Travers produce a little corn; but the higher part of the canton, bordering on France, is occupied in pasturage and plantations. During the last century this became a manufacturing district of consequence, in cotton, linen, and woollen fabrics, as well as in those of lace and stockings; watches and other metallic works.

The inhabitants, who amount to about 50,000, are, with the exception of about 2000, Protestants. Their language is French; and there exists among them a great degree of comfort and civilisation. The country was originally, with the adjacent principality of Valengin, a small free state; the prince being obliged before his accession, to take an oath that he would preserve its integrity, and secure to his subjects their ancient rights. In 1707, on the extinction of the reigning family, the state transferred its sovereignty to the king of Prussia. This government continued till 1807, when, by the Treaty of Tilsit, Neufchatel was ceded to France, and given by Buonaparte to marshal Berthier. The year 1814, however, relieved it from this irksome subjection, after which the congress of Vienna acknowledged it a Swiss canton, under the nominal sovereignty of Prussia.

NEUFCHATEL, the capital of the above canton, is situated on the rivulet Seyon, near where it falls into the lake of Neufchatel. It stands partly on an eminence, and is surrounded by vineyards and gardens. It is in general well built, and consists of four principal streets, the houses having frequently an air even of elegance. The old castle, town-house, the principal church,

and the hospital, are public buildings worth notice. The town-house was constructed at the expense of an individual citizen, who had acquired a large fortune, and who on his death, in 1786, bequeathed the whole for public purposes. The manufactures consist of printed cottons and linens. Population 5000. Fifty miles north-east of Lausanne, and twenty-five west of Bern. Long. 7° 0' E., lat. 47° 5' N.

NEUFCHATEL, LAKE OF, a beautiful and extensive lake in the north-west of Switzerland, separating the canton of that name from Friburg. It is about twenty miles long from south-west to north-east, and four broad; its greatest depth being about 400 feet, and it lies 1320 feet above the level of the sea. The rivers that fall into it are the Orb, Ruz, Seyon, and Broie. It abounds in fish, and affords the means of a considerable navigation, the waters flowing through the small lake of Bienne into the Aar, and eventually into the Rhine. It is subject to frequent squalls of wind.

NEUFCHATEL, a town in the department of the Lower Seine, France, on the small river Bethune. It is a manufacturing place, with a population of 2900. The environs are remarkable for their rich pastures. Twenty-six miles north-east of Rouen.

NEUIHAUS, or GINDRZICHU HRADICZ, a well built town of Bohemia. It contains a gymnasium formerly belonging to the Jesuits, a fine castle, and extensive woollen manufactures. In 1801 there was a dreadful fire here. Inhabitants 5200. Sixty-eight miles S. S. E. of Prague.

NEVIN, NEFYN, or NEWIN, a town of North Wales in Caernarvonshire, with a market on Saturday. In this town Edward I., in 1284, held his triumphal festival on the conquest of Wales; and, to conciliate his new subjects, held, in imitation of king Arthur, a round table, with dances and tournaments; at which were present the chief nobility of England, and many foreign lords, and a vast concourse of people. Nevin is six miles west of Pullyely, and 249 north-west of London.

NEVIS, an island of the West Indies, said to have received this name from Columbus, is separated from the south-east end of St. Kitts by a strait, called the Narrows, three miles broad. It is one great mountain, eight miles long and five broad, with a border of low land a mile and a half in breadth, well watered and fertile. In the centre of the summit of the mountain is an ancient crater, and sulphur is frequently found in the fissures of the soil.

The island forms five parishes; the only town is Charlotte, at the south-west end, but it has two other shipping places at India Castle and New Castle. The population was—

	Whites.	Free people of col.	Slaves.
1787 . . .	1,514 . . .	140 . . .	8,420
1805 . . .	1,300 . . .	150 . . .	8,000

The imports to England, and exports thence, were—

	Imports.	Exports.
1809 . . .	£89,062 . . .	£20,500
1810 . . .	126,443 . . .	11,764

The principal imports from the island were—

	Coffee. <i>cwt.</i>	Sugar. <i>cwt.</i>	Rum. <i>galls.</i>	Cotton. <i>lbs.</i>
1809	—	68,720	52,478	17,463
1810	18	87,392	67,010	11,160

On an average it is reckoned to produce one hogshead of sugar to an acre. The island has no European regular troops, but the white inhabitants form a militia. An English colony from St. Christopher's first settled here in the year 1628, under Sir Thomas Warner. His successor, governor Lake, was considered as the Solon of this colony, in which he arranged every thing with such prudence, wisdom, and justice, as procured him a high reputation with the French as well as English. In the Dutch war they met with some disturbance from the French; but, by being covered by an English squadron, the enemy were obliged to retreat, after a smart engagement in sight of the island. Sir William Stapleton sometimes resided here, and Sir Nathaniel Johnson constantly. The population was then computed at 30,000. In the war after the Revolution they exerted themselves gallantly, and had two regiments of 300 men each. In that of queen Anne they behaved equally well, though they were less fortunate; for the French landing with a superior force, in 1706, and having inveigled most of their slaves, they were forced to capitulate. About 4000 of these slaves the French carried away and sold to the Spaniards, to work in their mines. The parliament, after making enquiry into the losses they had sustained, voted them about a third part of the sum which they had lost. These losses by war, an epidemic disease, and repeated hurricanes, exceedingly diminished the number of the people. In 1783 this island was restored to Great Britain, and we have ever since retained it. Long. 62° 35' W., lat. 17° 14' N.

NEUMANN (Caspar), a celebrated German chemist of the eighteenth century, was originally an apothecary at Berlin, where his chemical and professional skill attracted the notice of Frederick III. of Prussia, who supplied him with the means of pursuing his studies at Halle, where he took the degree of M.D. He afterwards travelled into France, England, and Italy; and, on his return to Berlin, became Royal professor of chemistry. He was also honored by the king with the title of aulic counsellor. He died in 1737. Neumann contributed much to the progress of chemistry by his writings, which are still valuable, though more recent discoveries have overturned his theories. His chemical works were translated into English in 1759, 4to.; and, in 1773, 2 vols. 8vo.

NEUMARKT, a town on the Sulz, in the upper palatinate, Bavaria. It is on the road between Nuremberg and Ratisbon; and its breweries are of importance. Near the town also are mineral waters, with appropriate buildings. It was here, on the 23d August, 1796, that the French, under Jourdan, met with the first of those defeats which led to their retreat across the Rhine. Population 2400. Nineteen miles south-east of Nuremberg.

NEURADA, in botany, a genus of the digynia order, and decandria class of plants; natural order thirteenth, succulentæ: CAL. quinque-

partite: petals five: CAPS. inferior, decemlocular, decaespermous, and aculeated. There is only one species, viz. *N. procumbens*. The whole plant is white and woolly: it sends off numerous stalks in every direction, which lie flat on the ground: the leaves stand on short foot stalks; they are of an oval shape, and plaited like those of the lady's mantle. It is a native of the warm climates, and found on dry parched grounds.

NEUSATZ, or NEO-PLANTA, or UJ-VIDEK, a considerable and well-built walled town of South Hungary, in the palatinate of Bacs, separated from Peter-Waradein by the Danube. It was long considered a suburb of that town; but its population has at length exceeded that of the parent settlement. It is, besides, totally distinct in a civil point of view, having received the privileges of a free city in 1751. Favored by the navigation of the Danube, its trade is very considerable, particularly with Turkey. The inhabitants are chiefly of the Greek church, that sect having here a bishop and five churches, while the Catholics have but one. Population 14,000. Long. 19° 52' 11" E., lat. 45° 16' 0" N.

NEUSIEDLER-SEE, or Fertoe, a lake in the west of Hungary, lying between the counties of Oedenburg and Wieselburg, extends from north to south about thirty miles, but the southern extremity makes a considerable curve towards the east. Its breadth, where greatest, is about ten miles. It is too shallow for navigation, but its shores westward are covered with vineyards and forests; on the east they are marshy, and overrun with reeds. The water becomes very turbid when agitated by wind, and is liable to considerable variations in height; but generally it is clear, and very salt. In 1777 and 1780 a dike or mound was erected to confine the south-east waters of this lake; but beyond it is a large marsh called the Hansag.

NEUSOHL, or Besztercze-Banya, a well-built town of north-west Hungary, on the rivers Gran and Bistritz, the chief place of the palatinate of Sohl. It was founded in 1222 by a Saxon colony, sent hither by the Hungarian government to work the neighbouring copper mines. It has an old castle, a Catholic and Lutheran church, and a hospital. A Catholic bishopric was founded here in 1766; and there are also a Catholic and Lutheran seminary and high school. The town has a good manufacture of sword blades. Population 10,000.

NEUSS, a manufacturing town of Prussia, in the government of Dusseldorf, on the Erfft, about a mile from its influx into the Rhine. This is the Novesium of the Romans; and Drajawrin found, on digging the Canal du Nord, several urns and coins of Vespasian. It has a public square, with a statue in bronze of Frederick III. The inhabitants, about 5400, manufacture cotton stuffs and ribands, and carry on some trade in corn, oil, and wood. Three miles south-west of Dusseldorf.

NEUSTADT, a circle of Saxony, ceded to Prussia, in 1815, by the treaty of Vienna. The greater part was subsequently made over to the grand duke of Saxe-Weimar; while the remainder, with the detached parts of the Vogtland, lying among the possessions of the dukes of the

house of Saxe, still forms a circle in the Prussian territory, bearing the name of Neustadt.

NEUSTADT-EBERSWALD, a fortified town of Brandenburg, at the confluence of the Finow and the Schwarz, consists of two parts, Neustadt and Eberswald. A colony of Swiss Protestants settled here in 1693, and employed themselves chiefly in agriculture. In 1743 and 1748 another colony from Saxony settled here; these are chiefly hardware manufacturers. Inhabitants 3000. Thirty miles north-east of Berlin.

NEUSTADT, MAEHRISCH or MORAVIAN, a walled town of Moravia, has a variety of manufactures on a small scale, viz. woollens, needles, salt-petre, gunpowder, and glass. Population 3000. Thirteen miles north of Olmutz.

NEUSTADT WIENERISCH, a well-built town of Lower Austria, on the Fischa and Steinfeld. The streets are wide and straight; and it contains, without the garrison and military school, 7000 inhabitants. These add from 2000 to 3000 more. The school was founded in 1752, and occupies a large building, formerly a palace of the arch-dukes of Austria: it contains thirty-six professors, and 440 pupils. There is also in the town a riding-school and gymnasium. This place is one of the chief entrepôts for the intercourse between Italy and Hungary, and has a brisk trade; also manufactures of silk stuffs, woollens, pins, brass wire, and stone-ware. A canal connects it with Vienna, from which it is distant twenty-eight miles south.

NEUTER, *adj.* & *n. s.* } Fr. *neutre, neutral*;
 NEUTRAL, *adj.* & *n. s.* } Lat. *neuter*. Indif-
 NEUTRALITY, *n. s.* } ferent; of neither
 NEUTRALLY, *adj.* } side or sex: a thing
 or person indifferent; unengaged, unpledged; or of neither sex: neutral as a substantive and adjective is used exactly as a synonyme of neuter: neutrality is a state of indifference; neutrally, indifferently, on either part.

Who can be wise, amazed, temperate, and furious, Loyal and neutral in a moment? No man.

Shakspeare.

He no sooner heard that king Henry was settled by his victory, but forthwith he sent ambassadors unto him to pray that he would stand neutral.

Bacon's Henry VII.

The treacherous who have misled others, and the neutrals and the false-hearted friends and followers, who have started aside like a broken bow, are to be noted.

Bacon.

Some things good, and some things ill do seem, And neutral some, in her fantastick eye.

Davies.

There is no health: physicians say, that we At best enjoy but a neutrality.

Donne.

The adjectives are neuter, and animal must be understood to make it grammar.

Dryden.

The king, late griefs revolving in his mind, These reasons for neutrality assigned.

The general division of the British nation is into whigs and Tories; there being very few, if any, who stand neuter in the dispute, without ranging themselves under one of these denominations.

Addison's Freeholder.

The learned heathens may be looked upon as neutrals in the matter, when all these prophecies were new to them, and their education had left the interpretation of them indifferent.

Addison.

The allies may be supplied for money, from Denmark and other neutral states.

Addison on War.

Men who possess a state of neutrality in times of publick danger, desert the interest of their fellow subjects.

Addison.

A verb neuter is that which signifies neither action nor passion, but some state or condition of being; as, sedeo, I sit.

Clark.

Salts which are neither acid or alkaline, are called neutral.

Arbutnot.

All pretences to neutrality are justly exploded only intending the safety and ease of a few individuals, while the publick is embroiled. This was the opinion and practice of the latter Cato.

Swift.

When upon a trial a man calls witnesses to his character, and those witnesses only say that they never heard, nor do not know any thing ill of him; it intimates at best a neutral and insignificant, though innocent character.

Chesterfield.

An armament had already been proposed to meet the exigencies of the neutral war, and to bring it to a successful termination, and that armament effectually and gloriously put an end to it.

Canning.

NEUTER NOUNS, those which are neither masculine nor feminine. See GENDER. In English, and other modern tongues, there are no neuter nouns. See NOUN.

NEUTER VERBS, by some grammarians called intransitive verbs, are those which govern nothing, and that are neither active nor passive. See VERB. When the action expressed by the verb has no object to fall upon, but the verb alone supplies the whole idea of the action, the verb is said to be neuter: as I sleep, thou yawnest, he sneezes, we walk, ye run, they stand still.

NEUTRA, or NYITRA, a palatinate of North-west Hungary, bordering on Moravia, and situated between the palatinates of Presburg and Trentsin. It is divided into two parts by the Waag, and is partly mountainous. It produces both corn and vines; the mountainous part abounds in mineral waters. The area is 2570 square miles, and the population 320,000, of Sclavonian and German descent.

NEUTRA, or NYITRA, a town of the north-west of Hungary, on a river of this same name, and the capital of the palatinate, is finely situated on two elevations, on one of which stands a bishop's palace and cathedral, on the other a public school. Behind the town is a range of hills covered with trees. There is here a large state-house, where the diet meets; and the inhabitants, mostly Slovacs, amount to 3900. It is forty-four miles east by north of Presburg.

NEUTRAL SALTS, among chemists, those compounded of an acid with any other substance capable of uniting with it and destroying its acidity. Those in which the acid is saturated with an earth or a metal are called imperfect, but those in which a pure alkali is employed are called perfect neutrals. See CHEMISTRY.

NEUWIED, a neat town of the province of the Lower Rhine, Prussia, in the government of Coblentz. It was once the chief town of a principality, which enjoyed its independence until 1806: the prince, being a Calvinist, and surrounded by bigotted governments, opened his capital to all who were restrained in the exercise of their worship, and the effect has been admirable: here are churches for Catholics, Protestants, Baptists, Hershutters, and Jews; the whole population being in general industrious,

and carrying on a variety of manufactures, viz. of cotton and wool, hardware, linen, soap, watches, and cabinet-making. From its vicinity to the Rhine, Neuwied has a good traffic in corn, wine, timber, and potash; the whole displaying an aspect of activity seldom met with. The prince's palace, containing a good library, is surrounded with extensive gardens. Seven miles N. N. W. of Coblenz, and forty-two S. S. E. of Cologne.

NEW, *adj. & adv.* } Sax. *neop*; Teut.
NEWFANGLED, } and Swed. *neu*;
NEWFANGLEDNESS, *n. s.* } Belg. *nieuw*; Goth.
NEWLY, *adv.* } *ny*. Novel; mo-
NEWNESS, *n. s.* } dern; fresh; lately
NEWS, } produced, procured,
NEWSMONGER, } made, or had; re-
NEW-YEAR'S-GIFT, } novated: as an ad-
verb it is principally used in composition, see numerous instances below: newfangled is, made with a foolish love of novelty: newfangledness is the taste or passion for novelty of this description: newly and newness follow the sense of the adjective new. News (always written in this plural form) signifies, a fresh account of things; something not before known; papers containing such an account: a newsmonger is a dealer in news; a gossip, male or female: new-year's-gift, a present made on the opening of a new year.

Stedfastly purposing to lead a *new* life.

Common Prayer.

His device was to come without any device, all in white like a *new* knight, but so *new* as his *newness* shamed most of the others long exercise. *Sidney.*

As he was ready to be greatly advanced, for some noble pieces of services which he did, he heard *news* of me. *Id.*

As soon as she had written them, a *new* swarm of thoughts stinging her mind, she was ready with her foot to give the *new-born* letters both to death and burial. *Id.*

So to *newfangledness* both of manner, apparel, and each thing else, by the custom of self-guilty evil, glad to change though often for a worse. *Sidney.*

So dreadfully he towards him did pass,
Forelifting up aloft his speckled breast,
And often bounding on the bruised grass,
As for great joyance of his *new-come* guest.

Spenser.

Such is the power of that sweet passion,
That it all sordid baseness doth repel,
And the refined mind doth *newly* fashion
Into a fairer form. *Id. Hymn on Love.*

Such assemblies, though had for religion's sake,
may serve the turn of heretics, and such as privily
will instil their poison into *new* minds. *Hooker.*

God hath not then left this to chuse that, neither
would reject that to chuse this, were it not for some
new-grown occasion, making that which hath been
better worse. *Id.*

Yet he them in *newfangledness* did pass.

Hubberd.

What's the *newest* grief?
—That of an hour's age doth hiss the speaker;
Each minute teems a *new* one.

Shakspeare. Macbeth.

Your master's lines
Are full of *new-found* oaths; which he will break
As easily as I do tear this paper. *Shakspeare.*

Will you with those infirmities she owes,
Unfriendly, *new-adopted* to our hate,

Dowered with our curse, and strangered with our
oath,

Take her or leave her? *Id. King Lear.*

Now hath my soul brought forth her prodigy,
And I a gasping, *new-delivered* mother,
Have woe to woe, sorrow to sorrow, joined.

Shakspeare.

At Christmas I do more desire a rose,
Than wish a snow in May's *newfangled* shows;
But like of each thing, that in season grows. *Id.*
Her breath indeed those hands have *newly* stopped.

Id.

Away, my friends *new* flight;
And happy *newness* that intends old right. *Id.*

Many tales devised,
Which oft the ear of greatness needs must hear,
By smiling pick-thanks and base *news-mongers*.

Id.

If I be served such a trick, I'll have my brains
taken out and buttered, and give them to a dog for
a *new-year's-gift*.

Id.

Their stories, if they had been preserved, and what
else was performed in that *newness* of the world,
there could nothing of more delight have been left
to posterity.

Raleigh.

When Rhea heard these *news*, she fled from her
husband to her brother Saturn.

Id.

Men, after long emaciating diets, wax plump, fat,
and almost *new*.

Bacon's Natural History.

They *newly* learned, by the king's example, that
attainders do not interrupt the conveying of title to
the crown.

Bacon.

Words borrowed of antiquity to lead majesty to
stile, they have the authority of years, and out of
their intermission do win to themselves a kind of
grace like *newness*.

Ben Jonson.

The women would be loth to come behind the
fashion in *newfangledness* of the manner, if not in
costliness of the matter.

Carew.

Her lips were red, and one was thin,

Compared to that was next her chin;

Some bee had stung it *newly*.

Suckling.

I've seen the morning's lovely ray

Hover o'er the *new-born* day;

With rosy wings so richly bright,

As if she scorned to think of night.

Crashaw.

He therefore, which if he had known the offence
would have sent up prayers and tears to God, now
sends spies for a further discovery of Ai: they return
with *news* of the weakness of their adversaries.

Bp. Hall.

In these disturbances,

And *newness* of a wav'ring government,

T'avenge them of their former grievances.

Daniel.

All clad in liveliest colours, fresh and fair
As the bright flowers that crowned their brighter
hair;

All in that *new-blown* age which does inspire

Warmth in themselves, in their beholders fire.

Cowley.

We talk in ladies' chambers love and *news*. *Id.*

Now the books, and now the bells,

And now our acts the preacher tells,

To edify the people;

All our divinity is *news*,

And we have made of equal use

The pulpit and the steeple.

Denham.

Some tree, whose broad smooth leaves together

sewed,

And girded on our loins, may cover round

Those middle parts; that this *new-come* shame,

There sit not, and reproach us as unconcern.

Milton.

The *new-created* world, which fame in heaven

Long had foretold.

Id. Paradise Lost.

Evil *news* rides fast, while good *news* baits.

Milton.

With such amazement as weak mothers use,
And frantic gesture, he receives the *news*.

Waller.

When he sat on the throne distributing *new-year's* gifts he had his altar of incense by him, that before they received gifts they might cast a little incense into the fire; which all good Christians refused to do.

Stillingfleet.

Whoever converses much among old books, will be something hard to please among *new*.

Temple.

Let this be nature's frailty, or her fate,
Or Isgrim's counsel, her *new-chosen* make.

Dryden.

When springing forth from Jove's *new-closing* wound,

She struck the warlike spear into the ground. *Id.*

A bird *new-made*, about the banks she plies,
Not far from shore, and short excursions tries.

Id.

When pleading Matho, borne abroad for air,
With his fat paunch fills his *new-fashioned* chair.

Id.

A *new-formed* faction does your power oppose,
The fight's confused, and all who meet were foes.

Id.

If thou ken'st from far
Among the Pleiads a *new-kindled* star;
If any sparkles from the rest more bright,
'Tis she that shines in that propitious light. *Id.*
Seized with wonder and delight,
Gazed all around me, *new* to the transporting sight.

Id.

Nor dare we trust so soft a messenger,
New from her sickness to that northern air. *Id.*
He rubbed it o'er with *newly* gathered mint. *Id.*

There are some *newnesses* of English, translated from the beauties of modern tongues, as well as from the elegancies of the Latin; and here and there some old words are sprinkled, which, for their significance and sound, deserve not to be antiquated.

Id.

The amazing *news* of Charles at once was spread,
At once the general voice declared
Our gracious prince was dead. *Id.*

It is no *news* for the weak and poor to be a prey to the strong and rich.

L'Estrange.

If we consider *new-born* children, we shall have little reason to think that they bring many ideas into the world with them.

Locke.

If it could, yet that it should always run them into such a machine as is already extant, and not often into some *new-fashioned* one, such as was never seen before, no reason can be assigned or imagined.

Ray on the Creation.

They have *news-gatherers* and intelligencers distributed into their several walks, who bring in their respective quotas, and make them acquainted with the discourse of the whole kingdom.

Spectator.

A superior capacity for business, and a more extensive knowledge, are steps by which a *new* man often mounts to favor, and outshines the rest of his contemporaries.

Addison.

Their papers, filled with a different party spirit, divide the people into different sentiments, who generally consider rather the principles than the truth of the *news-writer*.

Id.

Do not all men complain how little we know, and how much is still unknown? And can we ever know more, unless something *new* be discovered?

Burnet.

This English edition is not so properly a translation as a new composition, there being several additional chapters in it, and several *new-moulded*.

Burnet's Theory.

New-found lands accrue to the prince whose subject makes the first discovery.

Id.

Newness in great matters, was a worthy entertainment for a mind; it was an high taste, fit for the relish.

South.

The proctor exhibits his proxy from the dean and chapter, and presents the *new-elected* bishop to the vicar-general.

Ayliffe.

Drummers with vellum-thunder shake the pile,
To greet the *new-made* bride.

Gay's Trivia.

Ah Blouzelind! I love thee more by half,
Than does their fawns, or cows the *new-fallen* calf.

Gay.

Those charities are not *neufangled* devices of yesterday, but are most of them as old as the reformation.

Atterbury.

This was come as a judgment upon him for laying aside his father's will, and turning stockjobber, *news-monger*, and busy-body, meddling with other people's affairs.

Arbutnot.

Their names inscribed unnumbered ages past,
From time's first birth, with time itself shall last;
These ever *new*, nor subject to decays,
Spread and grow brighter with the length of days.

Pope.

Twelve mules a strong laborious race,
New to the plough, unpractised in the trace.

Id.

The *new-fallen* young here bleating for their dams,
The larger here, and there the lesser lambs. *Id.*
Learn all the *new-fashion* words and oaths. *Id.*

Advertise both in every *news-paper*; and let it not be your fault or mine, if our countrymen will not take warning.

Id.

The *new* state in which I found the proceedings upon my return to England required the most serious consideration.

Canning.

I regret it only as it has prevented me from anticipating with you the announcement in a *newspaper* of an event in which I know your kind partiality will induce you to feel a lively interest.

Suift.

NEW ABERDEEN. See ABERDEEN, NEW.

NEWARK, or NEWARK UPON TRENT, a borough, market town, and parish of Nottinghamshire, a great thoroughfare on the York road, 120½ miles from London. It has bridges over the Trent, which forms an island here, by dividing itself into two streams, two miles above the town, which meet again two miles below it. A magnificent castle was built here in the reign of king Stephen, which held out in the barons' wars for king John, who died here, October 19th, 1216. On the 21st of March, 1544, the royalists under prince Rupert were defeated near this place by the parliament's army under Sir John Meldrum. The town, however, stood out for king Charles I. to the last; but, after he had delivered himself into the hands of the Scots army then before it, the governor by his order surrendered it, after which the castle was demolished.—It was situated near the river; the walls of the towers are very thick, and of a very great height; and were formerly of great importance. In the court before these ruins is a fine bowling green, and near it a manufactory of sacking. The town being subject to inundations from the Trent, and thus often rendered impassable, a turnpike road was con-

structed by Mr. Smeaton, at the expense of 12,000, so high as to be passed with safety in the greatest floods, arches of brick being made in several places to carry off the water. Near the town there is a bridge constructed for the same purpose, mostly upon dry land, consisting of nine arches. The market-place is handsome, though not spacious. Its church, which is reckoned one of the finest in the kingdom, was built by Henry VI., and has a high and lofty spire, with a peal of eight bells. The town hall is a magnificent stone edifice, erected in 1776, in the square, in which are elegant court and assembly rooms, and rooms for the corporation business, built from the produce of estates that were left by will for the improvement of the town, and cost upwards of £10,000. The town was incorporated by king Charles II. under a mayor and twelve aldermen. The same king, for its loyalty to his father, gave it the privilege of sending members to parliament. It has a large trade in corn, malt, cattle, wool, &c.; and has a charity-school for thirty-six boys. Its market is on Wednesday. It had formerly an abbey of Augustine friars. A free-school was founded here, endowed with the lordship of Everton in this county; and the vicar of Newark, and the brethren of the Trinity-guild, were made perpetual trustees. Many Roman urns and other antiquities have been found about this town. Limestone is dug in large quantities on an eminence called Beacon Hill, and gypsum for stucco is also burnt here. It is seventeen miles north-east by east of Nottingham.

NEWARK, a town of the United States, the capital of Essex county, New Jersey. It stands on the west side of the Passaic river, about three miles from its mouth, five miles from Elizabethtown, and nine west of New York.

NEWARK, a township of Newcastle county, Delaware, United States.

NEWARK, a town of the United States, the capital of Licking county, Ohio, on Licking River. It contains a court-house. Twenty-six miles W. N. W. of Zanesville.

NEWARK, a town of Upper Canada, at the entrance of the river Niagara from Lake Ontario, and fronting Fort Niagara on the American side. It was begun in 1692, and had increased to about 200 neat and well-built houses, with a church, court-house, and one or two other public buildings, when they were all destroyed in the year 1814, on the evacuation of Fort George. Seven miles from Queenstown.

NEWARK BAY, a bay on the coast of America, at the mouths of the Passaic and Hackinsack, between the main land and New Jersey. It divides into two branches; one running to the east, between the continent and north coast of Staten Island, joins the Hudson; the other runs southerly between the continent and west coast of Staten Island.

NEWBERN, a well-built market town and port of entry of the United States, the capital of Craven county, North Carolina, situated on the south-west bank of the Neuse, at the junction of the Trent. It contains a court-house, jail, theatre, academy, and three churches, one for Episcopalians, one for Baptists, and one for Methodists. It is a flourishing town, and has consider-

able commerce; the exports consisting chiefly of grain, pork, lumber, and naval stores. The shipping in 1816 amounted to 4975 tons. Steam-boats connected with the stages from Charleston, South Carolina, and with the stages and steam-boats to the northward, ply between Newbern and Elizabeth city. By this line the route from Norfolk to Charleston (800 miles) is performed in seven days. Population, in 1800, 2467; in 1818 about 6000. 100 miles north-east by north of Wilmington.

NEWBERRY, a township of the United States, in Lycoming county, Pennsylvania, on the west side of the Lycoming, at its entrance into the Susquehannah. Also the name of two other small townships, one in Burlington, New Jersey, the other in Christian county, Kentucky.

NEWBOROUGH, or **NEWBURGH**, a market town of North Wales, in the Isle of Anglesey, 257 miles from London, situated over against Caernarvon, about fifteen miles south-west of Beaumaris. It is governed by a mayor, two bailiffs, and a recorder. Its Welsh name is Rhos-sir or Rhosvair, and was the residence of the princes of Anglesea. It was made a corporation by Edward I., whence it was called New Borough. It contains 196 houses, and 756 inhabitants, and is noted for its manufacture of mats and ropes of sea-weed. Its markets are on Tuesday; and its fairs on the 22d of June, August 10th and 21st, September 25th, and November 11th. Long. 4° 27' W., lat. 53° 10' N.

NEW BRANDENBURGH, a well-built town of the north of Germany, in the grand duchy of Mecklenburgh-Strelitz, containing 5000 inhabitants. It is the seat of a church superintendency, and has manufactures of tobacco, cottons, woollens, and glass. Ten miles south of Trep-tow, and fifty-three west of Stettin.

NEWBURY, a market and post town of Berks, sixteen miles west of Reading, and fifty-three from London. It is as old almost as the Conquest. In the reign of Henry VIII. John Winscomb, commonly called Jack of Newbury, a great clothier, kept 100 looms in his house; and in the expedition to Flodden-field, against the Scots, marched with 100 of his own men, all armed and clothed at his own expense; and he built all the west part of the church. Mr. Kenric, the son of a clothier here, afterwards a merchant in London, left £4000 to the town, and £7500 to Reading, to encourage the woollen manufactory. It still makes a great quantity of shalloons and druggets, but not so much broad cloth as formerly; yet it is a flourishing town, with spacious streets and a large market-place, in which is the guild-hall. The church is of stone, built about 1640. It has seven sets of alms-houses. In the neighbourhood, on the banks of the Kennet, there is a stratum of petrified wood dug out for firing, where they frequently find trunks of large oaks undecayed, with petrified hazel-nuts, fir-cones, &c., with the bones and horns of stags, antelopes, &c. The Kennet, which abounds with excellent trout, eels, and cray-fish, runs through the town. It was made a corporation by queen Elizabeth, and is governed by a mayor, high steward, aldermen, &c. It sends a great quantity of malt to Lon-

don, has good inns, and has a charity school for forty boys. Its market is on Thursday.

NEWBURY PORT, a port of entry in Essex county, Massachusetts, United States, on the south side of the Merrimack, three miles from the sea. It contains a court-house, jail, almshouse, and seven churches, for Congregationalists, Presbyterians, Episcopalians, and Baptists. This is the third town in Massachusetts with regard to commerce and general consideration. Its trade with the West Indies is considerable, and it has a number of vessels employed in foreign trade. The bank fishery is also now carried on here to a great extent. The Labrador fishery, formerly a lucrative business, has been discontinued. The town is also well situated for ship-building, and several large vessels have accordingly been built here. The harbour is large, safe, and commodious, but of difficult entrance. The shipping belonging to the port, in 1816, amounted to 24,691 tons. On the south side of the harbour, on Plum Island, are two lights. This island is a place of much resort in the summer season. Newbury Port suffered very severely by fire in 1811, and has yet hardly recovered. Population 7634. Twenty-four miles north of Salem, and thirty-two N. N. E. of Boston.

NEWCASTLE (duke of), in biography. See CAVENDISH.

NEWCASTLE, a handsome town of Ireland, in Limerick, on the road to Kerry, 114 miles from Dublin. Here was a religious house possessed by the knights templars. It is said they used some barbarous customs, which greatly disgusted the Irish, who, watching a favorable opportunity, attacked a number of the knights riding out together, and put them to death: the place is still shown where their remains were interred. Newcastle consists of a large square, where markets and fairs are held; on the north side stands a market-house, with an assembly room; on the south side is a church, which is the neatest in the county, finished at the sole expense of lord Courtenay. It stands close to the walls and fortifications of the knights templars, of which one of the castles is fitted up for lord Courtenay's agent.

NEWCASTLE UNDER LINE, a market and borough town of Staffordshire, on a branch of the Trent, fifteen miles north of Stafford, thirty-three S. S. E. of Warrington, and 150 N. N. W. of London. It had a castle, now in ruins; and is so called from an older castle which formerly stood two miles off, at Chesterton-under-Line. It was incorporated by Henry I., and again by queen Elizabeth and Charles II., and is governed by a mayor, two justices, two bailiffs, and twenty-four common councillors. The cloth trade flourishes here; but its chief manufactory is hats. The streets are broad and well paved, but most of the buildings low and thatched. The market is on Monday; fairs on Easter Monday, Whit Monday, July 6th, first Monday in September, and November 6th, for cattle. It has also a great market for beasts every other Monday. The corporation has a court, which holds pleas for actions under £40. Its castle, of which there is little to be seen now, was built

in the reign of Henry III. It had formerly four churches, now reduced to one, the town having suffered much in the barons' wars. There are frequent horse-races in the neighbourhood, though it is surrounded with coal-pits, particularly one at Hamley-Green. It is softer than the cannel-coal, and is cut out in slices, but consumes so fast that it is only fit for forges.

NEWCASTLE UPON TYNE, the Roman Gabrogentum, the capital of the county of Northumberland, fourteen miles north-west of Durham, ninety-four north of York, sixty east of Carlisle, and 274 north by east of London. It is seated at the end of the Picts wall, on the north side of the Tyne, over which it has a stately bridge into the bishopric of Durham, in which its suburb called Gateside is situated; for the liberties of Newcastle extend no further than the great iron gate upon the bridge, which has the arms of the bishop of Durham carved on the east side, and those of Newcastle on the west.

It is admitted to have been a Roman station, though no evidence of this appears, except at Pandon-gate, whose superstructure is of different workmanship and model from any others of the town. The carpenter's tower is also of Roman original. In the Saxons' time it was called Mouncaster, from the monks here, who all fled when it was depopulated by the Danes; and afterwards Newcastle, from a castle built here by William the Conqueror's son Robert, in 1080, to defend the country against the Scots, whose kings had this town before the Norman conquest, and sometimes resided in it. Several monasteries and houses were built soon after the castle; and it was greatly enlarged and enriched by a good trade to the coasts of Germany, and by the sale of its coal to other parts of England; for which, and other merchandise, it is the great emporium of the north of England, being the largest town in this part, next to York. In the reign of Edward I. it was burnt by the Scots; but a very rich burgher, who was taken prisoner, soon ransomed himself for a sum of money, and began the first fortifications of the place, which he extended from Sandgate to Pampendon, and thence to the Austin friars gate; which the townsmen finished, and encompassed with stout walls, two miles in extent, seven gates, and several casements, bomb-proof. Two other gates were added in modern times, viz. Bridgegate and Sandgate. It is a borough at least as ancient as king Richard II., who granted that a sword should be carried before the mayor; and king Henry VI. made it a town and county incorporate of itself, independent of Northumberland. Henry VII. built a monastery here for the Franciscans; besides which it had several other religious foundations, which have been converted into companies' halls. In the reign of Henry VIII. this city is said to have exceeded, in the strength and magnificence of its works, all the cities of England, and most places in Europe. It had six monasteries, viz. St. Bartholomew's, the Franciscans, the Domus Fratrum Predicatorum, the St. Austin's, the Domus Fratrum de Penitentia, and the Domus Fratrum Carmeli Monte.

St. Bartholomew's was founded by Henry I.

for Benedictine nuns; it was situated in Newgate Street. A back gate leading to it retains the name, together with a garden, which is in a square valley, extending to a place called High-friar-chair. Besides other possessions, not now certainly known, they owned the pleasant village of Stellar, on the southern bank of the Tyne, in the bishopric of Durham; and it is believed that they had a very large property in Newcastle, consisting in houses and wastes. A plot of ground adjoining to the moor belonged to them, and is still called the Nun moor. The monastery and chapel in Gateshead is said to have been a cell to these nuns, and paid an annual rent of two shillings. St. Mary's hospital in Westgate Street was also dependent upon them. Their annual revenues at the suppression amounted to £36 10s. The monastery of the Franciscans, Gray Friars, or Friars Minors, was founded in the reign of Henry III. by the Carliols, then wealthy merchants in Newcastle. It was situated near the lane called High-friar-chair, opposite to the Ficket-tower. At its dissolution in the year 1539 it consisted of a warden, eight friars, and two novices. The *Domus Fratrum Predicatorum*, or the monastery of the preaching or Dominican friars, was founded in honor of St. Dominic by Sir Peter and Sir Nicholas Scot, merchants in Newcastle, on a piece of ground given by three sisters. It appears from its remains to have been a very handsome structure. It consisted of a prior, and twelve brethren, dependent upon Teignmouth; and their revenue, at the general suppression, was valued at £2 19s. 6d. It was granted to the corporation of Newcastle, in consideration of their paying £53 7s. 6d. The priory is still preserved from dilapidations by several companies, who have their halls in it. The monastery of St. Austin was founded by William lord Ross, baron of Wark-upon-Tweed. It was situated in the Manour-chase, formerly called Cowgate. It was a handsome edifice, adorned with cloisters, and had a curious chapel. It was sometimes the residence of the kings of England in the expeditions against the Scots. After the suppression of religious houses it was for some time made use of by government for a magazine and a store-house, and was called by the townsmen the artillery-yard. King James I. gave it to a Scotchman, who uncovered it, and sold the lead; but it was lost at sea before it reached the market: he also sold some of the stones to Sir Peter Riddel, with which he built the south end of his house. Out of the ruins of this structure has since arisen a workhouse for the poor; a house of correction; a charity-school for the parish of All-saints, and a dwelling for the master, erected in the year 1723. Part of the garden that belonged to it is now occupied by the surgeons' hall and two of the town hospitals. The *Domus Fratrum de Penitentia Jesu Christi*, or the monastery of the brethren of the penance of Jesus Christ, was situated near West Gate by White-friar tower. King Henry III., at the request of Robert Bruce, gave it a piece of ground called Stablegarth. *Domus Fratrum Carneli Monte*, or the monastery of white friars, was founded by king Edward I. in honor of the

Virgin Mary, for a prior, seven brethren, and two noviciates; and on the suppression was valued at £9 11s. 4d. per annum. The Carmelites, or white friars, had also another monastery in this town, situated on the Wall-knowl, and founded, either by Laurentius de Acton, or Roger de Thornton; the latter, if not the founder, was certainly a great benefactor to it. From its being dedicated to St. Michael, and situated on an eminence, it was called St. Michael's Mount. It was dissolved by Henry VIII., and its lands vested in the corporation of Newcastle, in whose possession they still remain.

Newcastle had at this time four hospitals, viz. that of St. Mary Magdalen, the Virgin Mary, the Holy Trinity, and the *Maison Dieu*, or St. Catherine.

The hospital of St. Mary Magdalen was founded by king Henry I. for a master, brethren, and sisters, to receive leprous persons, but after that distemper had declined it became an asylum for the poor of the town, in the time of pestilence. Fourteen persons within the house were each allowed a room, 8s. a month, and coals. Fifteen without the house had a different allowance; some 8s., some 5s., and some 2s. 6d. a month. In the reign of Edward III. Laurentius de Acton had the first fruits of it, amounting annually to 200 marks. John Bland, who was then master, paid him forty marks for his own right. Bland was a very considerable patron to this hospital; he built the consistory, and ornamented the chapel, where he was afterwards buried. It stood on the summit of a hill without Pilgrim Street, and was dissolved by Henry VIII., and incorporated with St. Thomas's. The hospital of the Virgin Mary is supposed to have been founded during the reign of Henry II. by a gentleman of the name of Aselack of Killingworth, who gave, by charter, the ground on which it was built, with other endowments, for the maintenance of two friars and a chaplain, to serve God and the poor; here also the helpless stranger and indigent traveller found refreshment and repose. The inhabitants of Newcastle made an addition to this hospital, for supporting a master and a chaplain, to say divine service to six bede folk in the alms-house, for lodging poor and wayfaring people, and to give sepulture to such as died there; nine chaldrons of coals were likewise distributed among them. It was abolished by Henry VIII.; but in the ninth year of the reign of James I. the corporation of Newcastle obtained a charter for it, and converted it into a grammar-school. It is situated in Westgate Street. The hospital of the Holy Trinity was founded by William de Acton, mayor of Newcastle. It stood on the Wall-knowl, and was surrendered to Henry VIII., but the annual revenues are not mentioned. The hospital of St. Catherine, or the *Maison Dieu*, was founded by Roger de Thornton, in the reign of Henry IV. It was situated on the south side of the sand hill; and the chaplain who presided over it had the care of nine poor men and four poor women. In the thirty-fourth year of the reign of Henry VI. the corporation obtained from the founder the use of the hall and kitchen, for the purpose of giving wedding entertain-

ments to new married people, and where they received the offering and gifts of their friends.

It is governed by a mayor, twelve aldermen, a recorder, sheriff, town-clerk, a clerk of the chambers, two coroners, eight chamberlains, a sword-bearer, a water-bailiff, and seven sergeants. Its situation towards the river is very uneven, being built upon the declivity of a steep hill; but great improvements have of late been made in this part of the town. The castle overlooks the town. That part built by Robert was of great strength, and surrounded by two walls: the square was sixty-two feet by fifty-four, and the walls thirteen feet thick, within which was a chapel. The fortifications are now defaced, and their site crowded with buildings. The Moot Hall is a large ancient structure, probably coeval with the castle, and situated on the east side of the castle yard; but it presents nothing to attract particular notice. Its original intention was to assemble the lords and barons of the northern districts, upon any particular emergency in feudal times. Here John Baliol, king of Scotland, did homage to king Edward I., 1292; as did Edward Baliol in 1334 to king Edward III.

In 1770 the old bridge was carried away in a flood, and the present was erected about 1775, of nine noble elliptic arches. With the old bridge twenty-two houses were thrown down, and six lives lost. It was originally built of wood; but having been burnt, in 1248, was rebuilt of stone, of twelve arches, three of which on the north side were closed up, and served for cellars. It was rebuilt about 1450, and crowded with wooden buildings; but near the middle was a tower with an iron gate, used as a prison. A strong building crossed the bridge, which was used as a magazine. On the south front was a statue of king Charles II. The water which destroyed this bridge on November 11th, 1771, was upwards of twelve feet above high water mark in spring tides. On destroying the piers of the old bridge to erect the present, from medals found, part of it appears to have existed from the time of the Romans.

About two miles and a half to the east of Newcastle is Carville-house, formerly called Cousin's-house, where the Roman wall terminated in a station, the ruins of which are yet very visible. 'This, no doubt,' says Gough, 'is the wall's end, though the village which at present bears that name is half a mile or more off. Mr. Camden takes it for granted that this is the Vindebala of the Notitia, and Vindimora of the Itinerary, supposing these two to be one and the same place, though they are certainly different. But the ancient name of this station was Segedunum, the first of the stations per lineam valli, where the fourth cohort of the Largi was quartered. The ramparts and ditch may be distinctly traced. There are evident remains of two turrets at the west and east entrance, and a third at the south-west corner. The west entrance has been close to the wall, and the east opposite to it. The fort has been 140 yards, or six chains square, and contained about three half acres. The site of the station of the town is called Well lawes, quasi Wall lawes, and two distinct tumuli remain near the Bee-houses, and

in the south-west corner of the Wall Close is a heap of ruins, as of buildings or temples. In a wall at Cousin's-house are six inscriptions, with part of an altar and pedestal. Between the station at the end of the wall of St. Nicholas's church, Newcastle, are three castella visible, the next is lost in the town. Wall's End is a well built village, with a school, and two gentlemen's seats. Mr. Pennant mentions a broken inscription lately found here.'

Newcastle has long had celebrated glass-works (particularly for the finer sorts of glass), superior broad cloth manufactories, and excellent hardware and wrought iron works. That of earthenware is greatly increased, several of the potteries having upwards of 100 persons constantly employed. Ship-building is also carried on to a great extent. Here is also a grindstone manufactory, and chemical works, for white lead, minium, vitriol, and soap. In the coal trade it is the first port in the world, and exports, to foreign parts and coastwise, upwards of 700,000 chaldrons in a year. Its chief exports, besides coals and lead, are glass, earthenware, grind-stones, salt butter, tallow, and salmon. The total number of ships belonging to the port is from 850 to 900, burden about 200,000 tons, and the seamen employed are about 9000. The number of coasters cleared out in 1821 were nearly 10,000, and of foreigners upwards of 1000. Newcastle is a county within itself, and has sent two members to parliament ever since the reign of Edward I., being one of the first boroughs summoned to send representatives. The number of voters is about 3500, and the returning officer is the sheriff. The mayor has a handsome mansion-house, erected in 1692, at the expense of £6000, in which he resides while in office, and is besides accommodated with a state-coach, a state-berge, and an allowance of £2000 per annum. Market on Tuesday and Saturday. Fairs, August 12th, which continues till the 22d; and on the 29th of October, till the 6th of November. St. Nicholas is a vicarage, value £50; patron, the bishop of Carlisle: the other three churches are curacies under the mother church.

The more recent streets in the north and upper part of the town are of stone, and are level, spacious, and pleasant. The butchers' market is laid out in a very convenient manner. The town contains four churches; that of St. Nicholas, the mother church, is a large fabric, adorned with nine lofty and highly ornamented spires. To this church there is a valuable library. All-Saints' church is nearly circular, having a high and elegant spire, and the interior very beautifully fitted up. St. Andrew's and St. John's are also neat. St. Anne's chapel, erected in 1768, is an elegant structure. Here are sixteen meeting-houses for dissenters: two Roman Catholic chapels, and one for Quakers. The charitable institutions are numerous and excellent. The most distinguished are the infirmary, lunatic asylum, an hospital for lying-in women, dispensary, fever hospital; and the keelmen's hospital, supported by the keelmen, or coal-workers. The establishments for the education of children are very numerous; the most considerable are

the free grammar-school, national school, and Lancasterian school. Here are also literary, philosophical, medical, and antiquarian societies of great merit. Outside of the Westgate are commodious hot, warm, and vapor baths.

A set of elegant assembly rooms have been built by subscription, as well as a neat theatre and riding-house. The Trinity House was erected in 1805; and here are four commercial banks. The new county courts form an elegant oblong, or double square, 144 feet long, and seventy-two feet wide, having two beautiful fronts, and contain two spacious and commodious courts, with rooms for the grand and other juries, &c. In 1822 an act was passed for erecting a common gaol, house of correction, and sessions-house, for the county. The exchange and town-court, erected in 1658, is a noble building, from which the wall of the town runs parallel with the river, leaving an ample piece of ground before it, which forms as spacious and commodious a quay as any in England, to which ships of 300 or 400 tons come up with the tide; whilst those of greater burden take in and discharge their cargoes at Shields.

NEWCOME (William), D. D., late archbishop of Armagh, was a native of Barton-le-Clay, Bedfordshire, and born in 1729. His father, enjoying the vicarage of Abingdon, placed his son at the grammar-school in that town, and afterwards procured him a scholarship at Pembroke College, Oxford. Hence he removed on a fellowship to Hertford College, and, becoming tutor there, ranked among his pupils the late Mr. Fox. He graduated as doctor of divinity in 1765, when he went to Ireland as chaplain to the lord-lieutenant, the earl of Hertford; and became successively bishop of Dromore, Ossory, and Waterford, in which latter diocese he presided sixteen years. In 1795 earl Fitzwilliam translated him to the primacy. Archbishop Newcome wrote many theological tracts, the principal of which are, *A Revision of the English Translation of the New Testament*, 8vo. 2 vols. An Attempt towards an improved Version of the Book of Ezekiel; a similar attempt with respect to the Twelve Minor Prophets; *On the Harmony of the Gospels*; *An Historical View of the English Translations of the Bible*, 8vo.; *On our Lord's Conduct as a Divine Teacher*; *A Review of the chief Difficulties in the Gospel Account of the Resurrection of our Lord*; and on the Duration of our Lord's Ministry, in a letter to Dr. Priestley, printed in 8vo. His death took place in Dublin in 1800.

NEWEL, *n. s.* Qu. Sax. *þnol?* the top. The compass or space round which a staircase is carried.

Let the stairs to the upper rooms be upon a fair open newel, and finely railed in. *Bacon.*

NEWEL, in architecture, is the upright post which a pair of winding stairs turn about: this is properly a cylinder of stone, which bears on the ground, and is formed by the end of the steps of the winding stairs.

NEW ENGLAND. See **ENGLAND, NEW.**

NEW FOREST, an extensive forest of Hampshire, many miles in compass, which had many populous towns and villages, and thirty-six

churches, till it was destroyed and turned into a forest by William the Conqueror. It is remarkable that William II., the son of this tyrant, was killed in this forest at a hunting match. As this large tract lay many ages open and exposed to invasion from foreigners, Henry VIII. built some castles in it; and it has now several pretty towns and villages. It is situated in that part of Hampshire which is bounded on the east by the Southampton, and on the south by the British Channel. It is advantageously situated with respect to water carriage and nearness to the dock-yards, beyond every other forest, having several ports and places of shelter near it, for shipping timber, particularly Lymington, only two miles distant, Bewley about half a mile, and Redbridge three or four miles; and the navigation to Portsmouth, the most considerable dock-yard in England, is only thirty miles from the nearest of these places. This is the only forest belonging to the crown of which the origin is known. Domesday book contains the most distinct account of its afforestation by William I., the contents of every field, farm, or estate afforested, in hides, carrucates, or virgates, by which the extent of land was then computed; together with the names of the hundreds and villages, and of the former proprietors, who were for the most part Saxons, the rent or yearly value of each possession, and the tax which had been paid for it to the crown during the reign of Edward the Confessor, before the inhabitants were expelled, and that part of the country laid waste, are all to be found in that most curious and venerable record. The names of many of the places having been changed since that time, it is difficult to ascertain with precision what were then the limits of the forest. The oldest perambulation is among the pleas of the forest, in the eighth year of Edward I., preserved in the chapter-house at Westminster. The boundaries there described include all the country from Southampton on the east to the Avon on the west following the sea-coast as far as the south boundary between those rivers, and extending north as far as North Chadeford, on the west, and to Wade and Orebrugg, or Owerbridge, on the east; and the greatest part, if not the whole, of that extensive district, is mentioned in Domesday book to be the forest belonging to the crown. Another perambulation was however made in the twenty-ninth of the same king, which leaves out a great part of country contained within the former. This perambulation, which is preserved in the Tower of London, confines the forest to limits which appear to have been followed in the twenty-second of Charles II., when the forest was again perambulated. By the charta de foresta, all lands not belonging to the crown, which had been afforested by Henry II., Richard I., or king John, were to be deforested. The perambulation of Charles II. in 1583, is the last on record: it contains the legal bounds of the forest, and was given to the surveyors as their guide, in taking the plan which they made. From that plan, with the approbation of the lords commissioners of his majesty's treasury, an engraving was made. The whole, however, is not forest land, or now the property of the crown: there

are several manors, and other considerable freehold estates, within the perambulation, belonging to individuals. To perpetuate the spot where William Rufus was killed, a triangular stone was erected in 1745. King George III. visited this spot in 1789. In August 1782 a curious ancient golden cross was found here by a laboring man digging turf. It weighed above an ounce of gold, and had on one side an engraving of our Saviour, and on the other the ladder, spear, nails, and other emblems of his sufferings.

NEWFOUNDLAND, an important island of the gulf of St. Lawrence, separated from Labrador on the north by the strait of Belle Isle, six leagues wide. Newfoundland is eighty leagues long, and upwards of sixty broad; it is hilly, but not mountainous, and has some considerable rivers. The island throughout is rocky and barren, naturally producing only small firs, birch, and other plants, that thrive in cold and barren countries. The winters are besides so long, not breaking up till May, that oats is the only corn that ripens. The climate is also extremely disagreeable, from constant fogs and storms of sleet and snow. The interior of the island has never been explored, but from the accounts of the natives it is mountainous and covered with wood. The coasts are indented by a vast number of excellent bays and harbours, very few of which are ever visited even by the fishermen. The sole utility of this island to Great Britain is its serving as a rendezvous for the vessels employed in the fishery on the neighbouring banks. The whole number of stationary European inhabitants of the island does not exceed 1000 families: but a few miserable Esquimaux families also visit the island from the neighbouring coast of Labrador, and remain on it for a part of the year.

They are not without horned cattle; but they are preserved with great difficulty; the inhabitants have also kitchen gardens for summer herbs; but all other species of provisions, as flour, salt meat, &c., are supplied from England and America. Most of the goods of other kinds are also brought from England.

The value of exports from Great Britain to Newfoundland is between £300,000 and £400,000 a-year, entirely in provisions, clothing, fishing tackle, and salt. In the spring a squadron, composed of a fifty gun ship, a frigate, and one or two sloops, is sent from England to protect the fishery; and the admiral commanding the squadron is governor of the island for the time being. The lieutenant-governor's office is permanent.

St. John's, the chief place of the island, is on the east side, and on the shore of a fine basin, whose entrance is only 500 yards wide, between high rocky shores, and strongly fortified. The town is a poor place, the houses being mean and the streets narrow and filthy. Fort Townsend, on an elevation, contains the government house, magazines, and barracks. The other places of the island worthy of notice are, on the east coast, from north to south, the bay of Exploits, or New Perlican, a capacious harbour. Ragged Harbour, in Catalonia Bay, named from the craggy islands in it. Trinity Bay, a gulf, with many harbours and coves fit for the largest fleets. South of St.

John's is the bay of Bulls. Cape Race is the south-east point of the island.

On the south coast are Trepassy Bay, a deep and secure harbour. St. Mary's Bay has some good fishing banks within it. Placentia Bay, twenty leagues deep and sixteen wide, is a great gulf, with several harbours. That of Placentia, on the east shore, is one of the chief drying places of the fishermen, and has a fixed establishment, defended by a fort. Between Placentia and Cape Raye, the south-west point of the island, are the bays of Fortune and Despair, little frequented.

The banks of Newfoundland consist of one great and some smaller ones, extending from the latitude 40° to 45°. The depth is very irregular, from fifteen to sixty fathoms. The bank is entirely of sand, its edges perpendicular, and on the east is a great gulf, or concavity, called the ditch. The winds are generally moderate, and the water smooth on the bank, however hard it may blow beyond its limits; but the atmosphere is obscured by an almost perpetual fog, both of which circumstances seem to arise from the same cause, the strong evaporation over the bank, which, while it produces a fog, also cools the atmosphere beyond that over the open sea, and consequently the air from the latter is not attracted towards the former. The quantum of evaporation being in proportion to the extent of surface and depth of the evaporating mass, it follows that this quantum will be greater over banks than over the deep sea, and the atmosphere consequently colder; and this last consequence is proved by the repeated observation that the coming from the deep sea into soundings, or on a bank, is denoted by a sudden fall of the thermometer of from 3° to 5°. Mr. Pennant, in his Arctic Zoology, says, there is always a great swell on the banks. The fact is, however, that on the edges of the bank there is usually a hollow sea, caused by the polar current on the north, and the gulf stream on the south, striking with velocity against the perpendicular edges of the bank. At a small distance within these edges, on the contrary, the water is so smooth that it is usual for vessels on the bank fishing to enquire of those from sea what kind of weather it is abroad, that is, before their arrival on the bank.

These banks are the grand rendezvous of the great cod (*gadus morhua*) which arrive in the month of July in vast shoals. In August they become scarce, in consequence of the departure of the herrings and capelings, on which they feed; and also from the arrival of the sharks, which drive all other fish away. In September the cod re-appear, and continue till the middle of October, when the fishing season terminates. The fish are either cured wet or green, or dry. In the first case they are salted on board the vessels as they are taken, and brought to Europe without touching at Newfoundland. The vessels intended to bring home dried fish go into some port of the island, where stages are erected on the shore, on which the fish are placed to dry, after cutting off the head, emptying them, taking out the back bone, and strongly salting them. The livers of the cod afford a large quantity of train oil, which is procured by simply exposing

them to corrupt by the sun's heat, by which the greatest part of their substance runs into oil. The capeling, which is the only bait used to take the cod, is of the genus solauo, and the consumption is so great that they are often entirely exhausted near the coasts, and it is found necessary to go twenty leagues to sea for them. They are taken in nets.

Though Newfoundland was formally taken possession of for England, by Sir Henry Gilbert, in 1583, and though before that it was the rendezvous of fishing vessels of all nations of Europe, it was not until 1615 that any settlement was formed on it, in which year the English established some permanent posts on the east coast, and particularly at St. John's. Subsequent to 1635 the French formed an establishment at Placentia, and continued to send governors thither till the peace of Utrecht, when they relinquished all claim to the island. By the treaty of 1763 they were permitted to fish in the gulf of St. Lawrence, with this limitation that they should not approach within three leagues of any of the coasts belonging to England. The small islands of St. Pierre and Miquelon, situated to the southward of Newfoundland, were also ceded to the French, who stipulated to erect no fortifications on these islands, nor to keep more than fifty soldiers to enforce the police. By the last treaty of peace, the French are to enjoy the fisheries on the north and on the west coasts of the island; and the inhabitants of the United States are allowed the same privileges in fishing, as before their independence. See our article FISHERIES, in which are many interesting particulars of this important island and its banks.

NEW-HAVEN, a county of Connecticut, United States, bounded north-west by Litchfield county, north by Hartford county, east by Middlesex county, south by Long Island Sound, and west by Fairfield county. Chief town New-Haven.

NEW-HAVEN, a maritime city of the United States, in New-Haven county, lies round the head of a bay about four miles north from Long Island sound, and is situated on a large plain, bordered on the north-west by a high eminence called West Rock, and on the north-east by another eminence called East Rock. Two small rivers bound the city east and west. New-Haven was originally laid out in squares, divided by cross streets; four run north-west and south-east, and are intersected by others at right angles; near the centre is a beautiful square, in and about which are erected the college buildings, state-house, two very elegant Congregational churches of brick, and a gothic episcopal church. The public square, and many of the streets, are finely ornamented with rows of trees, which give the town a rural appearance. The city also contains Methodist meeting-houses, an alms-house, jail, museum, two insurance-offices, two banks, an academy, a public library, and brass-foundry, and has manufactures of cotton, paper, &c. In the town of Hamden, just out of the limits of New-Haven, there is an extensive gun manufactory. The burying-ground is here laid out in squares, and prettily ornamented with rows of trees. On the whole this is one of

the most pleasant and agreeable towns in the United States. The streets are sandy, but kept clean: the houses mostly of wood, and have a remarkable appearance of neatness; and the harbour, though inferior to that of New London, has good anchorage; and the want of sufficient depth of water has been in a measure remedied by the construction of a noble wharf. The trade is principally with New York and the West Indies. Four weekly newspapers are published in this city. About three miles west within the township there is another parish called West-Haven, with a Congregational meeting-house, and an episcopal church. The college established here, one of the most flourishing of the United States, was founded in 1700, at Killingworth, and afterwards removed to New-Haven.

NEW HOLLAND. See HOLLAND, NEW.

NEW JERSEY. See JERSEY, NEW.

NEW MARK, the former name of that part of the margraviate of Brandenburg that lay to the east of the Oder, containing an area of 4370 square miles, with 310,000 inhabitants. In 1815, on the new arrangement of the Prussian states, the chief part of it was included in the government of Frankfort on the Oder, and a smaller part annexed to that of Coeslin, Pomerania.

NEWMARKET, a town of England, in Cambridgeshire, fourteen miles east of Cambridge, thirteen from St. Edmondsbury, and sixty-one north-east of London; with one long street, the north side in Suffolk, the south side in Cambridgeshire. It is a healthy place, and a great thoroughfare in the road from London to Norfolk; but is principally eminent for the horse-races every year in April and October, the finest course in England being that of Newmarket, on which there is a house for the king when he comes to the races, which was built by Charles II. The king gives a plate or two every year, besides those given by the nobility. It has a chapel of ease to the mother church at Ditton; and another in the Suffolk side which is parochial. The town was burnt in 1683, but soon rebuilt. It has two charity schools, one for twenty boys, another for twenty girls, supported by £50 a year, first settled by queen Anne. It has markets on Tuesday.

NEWMARKET, a township of the United States, in Rockingham county, New Hampshire.—2. A township of Dorchester county, Maryland.—3. Of Frederick county, Maryland.—4. A township of Shenandoah county.—5. Of King and Queen county.—6. Of Spotsylvania county.—7. Of Prince William county.—8. Of Amherst county, Virginia.—9. A township of Bertie county, North Carolina.—10. Of Highland county, Ohio.—11. Of Geauga county, Ohio.

NEWPORT, a town of Cornwall, north of Launceston, with which it was formerly joined, and 214 miles west by south of London. It was a borough, but disfranchised in 1832.

NEWPORT, a large borough of Hampshire, in the isle of Wight, governed by a mayor and burgesses, who send two members to parliament. It has markets on Wednesday and Saturday. In 1648 a treaty was entered into at this town between king Charles I. and the

commissioners from the parliament. The town is well built; the market-house, above which is a town-hall, is an ancient building; and there is a neat theatre. This town consists of three parallel streets, which are crossed by three others, thus forming three large squares, which contain the cattle, corn, and poultry markets. It is seated on the Cowes, which is navigable for small vessels; six miles south of Cowes, seventeen of Southampton, and ninety-one south-west of London.

NEWPORT, a market town of Monmouthshire, on the Usk, over which it has a handsome bridge, four miles above its mouth; with a good harbour, and a market on Saturday. Over the river a fine stone bridge of five arches was built by Mr. David Edwards, son of the architect who built the far-famed bridge of Pont-y-Prydd. Its trade has been much benefited by the canal, which conveys to this town, for exportation, coal, and bar, and cast-iron, the produce of the foundries in the western mountains. The canal consists of two branches, the one called the Crumlin, and the other Pont-y-Pool branch, from the places where they commence: they both unite in the plain of Malpas, one mile distant from the town. Near the bridge stands the shell of the castle, a small but massive structure, supposed to have been erected by an earl of Gloucester and Hereford, in the reign of Henry I. It is nineteen miles south-west of Monmouth, and 152 west by north of London.

NEWPORT, a market and sea-port town of South Wales in Pembrokeshire, at the foot of a hill, near the coast; with a handsome church, an ancient castle, and a market on Saturday. It is governed by a mayor, twelve aldermen, a recorder, &c. It is pleasantly seated at the foot of a hill, but is an ill-built place, with a handsome church, and the ruins of a castle. The Nevern, a fine navigable river, runs by the end of the town, and empties itself into the Bristol channel; near it are a number of Druidical altars; one of which is upwards of nine feet in diameter, and of the shape of a mushroom; and within two miles of town the road passes close to the remains of several others.

NEWPORT, a sea-port of Newport county, Rhode Island, United States, on the south-west end of Rhode Island. It lies north and south, upon a gradual ascent east from the water, and looks beautifully from the harbour and the neighbouring hills. Here is a state-house, jail, public library, and eleven churches for the different sects. The harbour, which is defended by three forts, spreads westward before the town, and is one of the finest and safest in the world. The shipping owned here in 1816 amounted to 11,383 tons. Population 10,000. Fifty-five miles east by north from New London, and thirty south by east of Providence.

NEWPORT, a township of the United States, in Cheshire county, New Hampshire.—2. A township of Kennebeck county, Maine.—3. A township of Herkimer county, New York.—4. A township of Cumberland county, New Jersey.—5. A township of Luzerne county, Pennsylvania.—6. A township of Indiana county, Pennsylvania.—7. A township of Newcastle county,

Delaware.—8. A township of Charles county, Maryland.—9. A township of Wood county, Virginia, on the Ohio.—10. A township of Washington county, Ohio.—11. A township and capital of Cocke county, Tennessee.—12. A township of Liberty county, Georgia.

NEWPORT, a township of the United States, the capital of Campbell county, Kentucky, on the Ohio, opposite Cincinnati, just above the entrance of the Licking. It is situated on an elevated plain, and contains a court-house, a jail, a market-house, &c.

NEWPORT, a river of the United States, in North Carolina, which runs into the Atlantic. Long. 77° W., lat. 34° 43' N.

NEWPORT PAGNEL, a market-town of Bucks. An hospital was founded here by Anne, queen of James I., for three men and three women, of which the vicar of the town is master. The Presbyterians and Baptists have places of worship here. The town is surrounded with excellent corn and pasture land. The manufacture of thread lace, and that of paper, form the chief branches of employment here. In the neighbourhood of this town lived Cowper, the poet, who died in April, 1800. Market on Saturday for corn and provisions, and a lace-market on Wednesday: the latter not so considerable as it used to be. Famous for its manufactures of laces: fourteen miles E. N. E. of Buckingham, fifteen S. S. E. of Northampton, and fifty-one N. N. W. of London.

NEW RIVER, a fine artificial river of London, brought from two springs at Chadwell and Amwell, near Ware, in Herts, to supply the metropolis with water. See AMWELL. It was completed in 1613, by Sir Hugh Middleton, who spent his fortune on this patriotic work. See MIDDLETON. This river, with its various windings, is thirty-eight miles three-quarters, and sixteen poles long. It is under the management of a corporation called the New River Company, which is one of the most flourishing in London. See ISLINGTON. Where the New River passes the deep slope or bank of Amwell hill, and seems an ample pool of water, there is a little isle, on which Mr. Mylne has reared a monument to the virtues of Sir Hugh Middleton.

NEWRY, a considerable sea-port town of Ireland, in Down county, on the side of a hill, at the foot of which runs the Newry; over which it has two stone bridges, and a third over a navigable canal, by which it communicates with Lough Neagh, and Carlingford Bay. In 1689 it was burnt by the duke of Berwick. It is of late much improved. It is thirty-three miles S. S. W. of Belfast, and forty-nine north of Dublin, and sends one member to Parliament.

NEWSPAPERS, periodical journals of general occurrence, first published in England by the celebrated Sir Roger L'Estrange in 1663. This paper he styled the Public Intelligencer, but gave it up on the publication of the first London Gazette. Newspapers and pamphlets were prohibited by royal proclamation in 1680. Though at the revolution prohibitions of this kind were done away, and the press set at liberty, yet newspapers were afterwards made objects of taxation, and for this cause were first stamped in 1713.

NEWT, *n. s.* Sax. *epete*. Supposed by Skinner to be contracted from an *evet*. An eft; a small lizard: appropriated some to the land, and some to water.

O thou! whose self same mettle,
Whereof thy proud child, arrogant man, is puffed,
Engenders the black toad, and adder blue,
The gilded newt, and eyeless venom'd worm.

Shakspeare.

Newts and blind worms do no wrong;

Come not near our fairy queen.

Id.

Such humidity is observed in newts and water-lizards, especially if their skins be perforated or pricked.

Broune.

NEWTON (Sir Isaac), one of the greatest philosophers and mathematicians the world has ever produced, was the only child of Mr. John Newton of Colesworth, near Grantham in Lincolnshire, who had an estate of about £120 a year, where Isaac was born on Christmas day 1642. His father dying when he was young, his mother's brother, a clergyman, Mr. Ayscough, who lived near her, and directed her affairs, put her son to school at Grantham. When he had finished his school education, his mother took him home, intending that he should occupy his own estate. But his uncle happening to find him in a hay-loft at Grantham working a mathematical problem, and having otherwise observed the boy's mind to be uncommonly bent upon learning, he prevailed upon her to send him to Trinity College, Cambridge, where he himself had many friends. Here he was soon taken notice of by Dr. Isaac Barrow, who, observing his genius, contracted a great friendship for him. Fontenelle tells us, 'That in learning mathematics he did not study Euclid, who seemed to him too plain and simple, and unworthy of taking up his time. He understood him almost before he read him; and a cast of his eye upon the contents of his theorems was sufficient to make him master of them. He advanced at once to the geometry of Descartes, Kepler's Optics, &c. It is certain that he had made his great discoveries in geometry, and laid the foundation of his two famous works, the Principia and the Optics, by the time he was twenty-four years of age.' In 1664 he took the degree of A. B., and in 1668 that of A. M., being elected the year before, fellow. He had before this time discovered the method of fluxions; and in 1669 he was chosen professor of mathematics in the university of Cambridge, upon the resignation of Dr. Barrow. In 1669—1671 he read a course of optical lectures in Latin in the public schools of the university; an English translation of which was printed in London in 1728, in 8vo., as was the Latin original, in 1729, in 4to. From 1671 to 1679 he held a correspondence with Mr. Henry Oldenburg, secretary of the royal society, and Mr. John Collins, F. R. S. These letters contain a variety of curious observations. Respecting the origin of his discoveries, we are told, that as he sat alone in a garden, the falling of some apples from a tree led him into a speculation on the power of gravity; that, as this power is not diminished at the remotest distance from the centre of the earth to which we can rise, it appeared to him reasonable to conclude that it must extend much farther than

was usually thought; and pursuing this speculation, by comparing the periods of the several planets with their distances from the sun, he found, that, if any power like gravity held them in their courses, its strength must decrease in the duplicate proportion of the increase of distance. This enquiry gave rise to his writing the treatise which he published in 1687, under the name of Mathematical Principles of Natural Philosophy; and this year the university of Cambridge being attacked by king James II., Mr. Newton was one of its most zealous defenders, and was nominated one of the delegates of that university to the high commission court; in 1688 he was chosen one of their members for the convention parliament, in which he sat till it was dissolved. In 1696 Mr. Montague, then chancellor of the exchequer, and afterwards earl of Halifax, obtained for him of king William the office of warden of the mint; in which employment he was of signal service when the money was called in to be recoined. Three years after he was appointed master of the mint; a place of considerable profit, which he held till his death. In 1699 he was elected a member of the royal academy of sciences at Paris. In 1701 he was a second time chosen M. P. for the university of Cambridge. In 1704 he published his Optics; which may be considered as a science for which the world is entirely indebted to our author. In 1705 he was knighted by queen Anne. In 1707 he published his Arithmetica Universalis. In 1711 his Analysis per Quantitatum Series, Fluxiones et Differentias, &c., was published by William Jones, esq. In 1712 several of his letters were published in the *Commercium Epistolicum*. In the reign of George I. he was better known at court than before. The princess of Wales (afterwards queen Caroline), often proposed questions to him, and declared that she thought herself happy to live at the same time with him, and have the pleasure of his conversation. He had written a treatise on ancient chronology, which he did not think of publishing; but the princess desired an abstract, which she would never part with. However a copy of it stole abroad, and was carried into France; where it was translated and printed, with some observations which were afterwards answered by Sir Isaac. But in 1728 the Chronology itself was published at London in 4to., and was attacked by several persons, and as zealously defended by Sir Isaac's friends. The main design of it was to discover, from some tracts of the ancient Greek astronomy, what was the position of the colures with respect to the fixed stars, in the time of Chiron the centaur. As it is now known that these stars have a motion in longitude of one degree in seventy-two years, if it is once known through what fixed stars the colure passed in Chiron's time, by taking the distance of these stars from those through which it now passes, we might determine what number of years has elapsed since Chiron's time: Chiron being one of the Argonauts, this would fix the time of that famous expedition, and consequently that of the Trojan war; the two great events upon which all the ancient Grecian chronology depends. Sir Isaac places them 500 years nearer

the birth of Christ than other chronologers usually do. This great man had all along enjoyed a settled and equal state of health to the age of eighty, when he began to be afflicted with an incontinence of urine. However, for the five following years he had great intervals of ease, which he procured by the observance of a strict regimen. It was then believed that he had the stone; and, when the paroxysms were so violent that large drops of sweat ran down his face, he is said never to have expressed the smallest degree of impatience; but, as soon as he had a moment's ease, would smile and talk with his usual cheerfulness. Till then he always read and wrote several hours a day. He had the perfect use of his senses and understanding till the day before he died, which was on the 20th of March 1726-7, in the eighty-fifth year of his age. He lay in state in the Jerusalem chamber at Westminster, and on the 28th of March his body was conveyed into Westminster Abbey: the pall being supported by the lord chancellor, the dukes of Montrose and Roxburg, and the earls of Pembroke, Sussex, and Macclesfield. The bishop of Rochester read the funeral service. The corpse was interred at the entrance into the choir, where a noble monument is erected to his memory. Sir Isaac was of a middling stature, and, in the latter part of his life, somewhat inclined to corpulence. His countenance was pleasing, yet venerable. He never used spectacles, and lost but one tooth during his whole life. His temper was so equal and mild that no accident could disturb it. It is related that having had a favorite little dog called Diamond, Sir Isaac being one day called out of his study, Diamond was left behind. When he returned he found that Diamond having thrown down a lighted candle among some papers, the labor of many years was in flames. This loss, as Sir Isaac was then far advanced in years, was irretrievable; yet he only said, 'Oh! Diamond! Diamond! thou little knowest the mischief thou hast done!' When he had any mathematical problems in hand he could not be induced to quit them until solved. Dinner has been often three hours ready for him before he could be brought to table: and his man said that, when he has been getting up in a morning, he has sometimes begun to dress, and remained for hours abstracted before he got all his clothes on. When some objections, hastily made, to his discoveries concerning light and colors, induced him to lay aside his design of publishing his optic lectures, he blamed his own imprudence for parting with so real a blessing as quiet to run after a shadow, and resolved not to publish any more about that theory till he had put it above the reach of controversy. In the same temper, after he had sent the MS. of his Principia to the Royal Society, with his consent to the printing of it by them, upon Mr. Hook's injuriously insisting that he had demonstrated Kepler's problem before our author, he determined, rather than be involved again in a controversy, to suppress the third book, and was very hardly prevailed upon to alter that resolution. The amiable quality of modesty stands foremost in the character of this great man. It was in reality greater than can be easily ima-

gined; yet it always continued without alteration, though the whole world, says Fontenelle, conspired against it; and though he was thereby robbed of his invention of fluxions. Nicholas Mercator, publishing his *Logarithmotechnia* in 1668, gave the quadrature of the hyperbola by an infinite series, which was the first appearance in the learned world of a series of this sort drawn from the particular nature of the curve, and that in a manner very new and abstracted; but Dr. Barrow, then at Cambridge with Newton (at that time about twenty-six years of age), recollected that he had met with the same thing in his writings, not confined to the hyperbola only, but extended, by general forms, to all sorts of curves; to their quadratures, their rectifications, and their centres of gravity; to the solids formed by their relations, and to the superficies of those solids; so that, when their determinations were possible, the series stopped at a certain point, or at least their sums were given by stated rules: and, if the absolute determinations were impossible, they could yet be infinitely approximated. To be master of so fruitful and general a theory was a mine of gold to a geometrician; but it was a greater glory to have been the discoverer of so ingenious a system. Newton, however, finding by Mercator's books that he was in the way to it, and that others might follow in his track, instead of asserting his original claim to the discovery, contented himself with the treasure he had found, without regarding the glory. His MS. upon infinite series was communicated to none but Mr. John Collins and lord Brounker; and even that had not been complied with but for the pressing applications of Dr. Barrow. In a word he talked little either of himself or others, nor ever behaved in such a manner as to give the most malicious censurers the least occasion to suspect him of vanity. He was candid and affable; always put himself upon a level with his company, and never thought either his merit or his reputation sufficient to excuse him from any of the common offices of social life. Though firmly attached to the church of England, he was averse to the persecution of the non-conformists. In his opinion the true schismatics were the vicious and the wicked. He was thoroughly persuaded of the truth of revelation; and studied the Bible with the greatest application. As instances of his bounty and generosity we may mention his voluntary allowance to Mr. M'Laurin, professor of mathematics at Edinburgh, of £20 a year; and the settlement of £100 a year on his niece Barton. When decency upon any occasion required expense and show, he was magnificent with a good grace: at all other times appearances were studiously retrenched. He never married: it has been reported that he once made love to a young lady, daughter of a neighbouring gentleman; but when the marriage day was fixed, and the company convened, Sir Isaac, being deeply immersed in study, forgot the appointment, and the lady would never more hear of him. He left £32,000 at his death; but made no will. It became therefore the property of his legal heirs, the descendants of his sister, Mrs. Conduit. Hume says, 'In Newton this island may boast of having produced the greatest and

rarest genius that ever arose for the ornament and instruction of the species in philosophical, astronomical, and mathematical knowledge; cautious in admitting no principles but such as were founded on experiment, but resolute to adopt every such principle, however new or unusual; from modesty ignorant of his superiority above the rest of mankind, and thence less careful to accommodate his reasonings to common apprehensions; more anxious to merit than acquire fame. He was, from these causes, long unknown to the world; but his reputation at last broke out with a lustre which scarcely any writer before his time ever attained. While Newton seemed to draw off the veil from the mysteries of nature, he showed at the same time the imperfections of the mechanical philosophy, and thereby restored her ultimate secrets from that obscurity in which they had before lain, and in which, without his assistance, they would probably ever have remained.' Sir Isaac left a mass of MSS. philosophical, mathematical, and theological, which, after his death, were examined by a committee of the Royal Society; but none were printed except his Observations upon the Prophecies of Daniel and the Apocalypse, which appeared in 1733, 4to. 'It is astonishing,' observes Dr. Charles Hutton, 'what care and industry Newton employed about the papers relating to chronology, church history, &c., as on examining them it appears that many are copies over and over again, often with little or no variation; the whole number being upwards of 4000 sheets in folio, or eight reams of foolscap paper, besides the bound books, of which the number of sheets is not mentioned.' The most accurate edition of his Principia is that of fathers le Seur and Jacquier, 4 vols. 4to., 1739; his Opuscula Mathematica, Philosophica, et Philologica, were published by Castillon, Laus. 1744, 3 vols. 4to.; and his Arithmetica Universalis, with a commentary by the same editor, Amsterdam, 1761, 2 vols. 4to. His works were republished by Dr. S. Horsley, London, 1779, 5 vols. 4to.; an English translation of the Principia is extant, by Motte.

NEWTON (John), D. D., an eminent divine and mathematician, born at Oundle, in Northamptonshire, in 1622. From school he was sent to Oxford in 1637, and took his degree of B. A. in 1641; of M. A. in 1642; and of D. D. in 1661, when he was appointed a king's chaplain, and rector of Ross, in Herefordshire, where he died, December 25th, 1678. He wrote many useful works, particularly 1. *Astronomia Britannica*, 1656, 4to. 2. *Help to Calculation*, 1657, 4to. 3. *Trigonometria Britannica*, in two books, one translated from Gellibrand, the other his own; 1658, folio. 4. *Chiliades centum Logarithmorum*, 1659, and 1667. 5. *Geometrical Trigonometry*, 1659. 6. *Mathematical Elements*, 1660, 4to. 7. *A Perpetual Diary*, 1662. 8. *Use of the Carpenter's Rule*, 1667. 9. *Ephemerides*, 1667. 10. *Rule of Interest*, 1668. 11. *Practical Gauging*, &c., 1669. 12—15. *Introductions to Rhetoric, Arithmetic, Astronomy, and Geography*; 8vo. 1671, 1678. 16. *Cosmography*, 1678.

NEWTON (Richard), D. D., the founder of

Hertford College, an eminent clergyman, of whose origin no satisfactory account is recorded. By one writer he is said to have been a Northamptonshire gentleman; by another we are told that his father enjoyed, at Lavendon Grange, in Bucks, a moderate estate, which is still in the family, though he lived in a house of lord Northampton's, in Yardley-Chase, where, in 1765, our doctor was born. Richard was educated in Westminster school, and from that foundation elected to a studentship of Christ-church, Oxford. In the list of graduates he is thus distinguished: 'Newton (Richard), Christ church, M. A. April 12th 1701; B. D. March 18th 1707; Hart-hall, D. D. December 7th 1710.' He was appointed a tutor in Christ-church, and discharged the duties of that important office with honor to himself and advantage to the society of which he was a member. From Oxford he was called into lord Pelham's family to superintend the education of the duke of Newcastle and his brother Mr. Pelham; and by both these illustrious persons he was ever remembered with the most affectionate regard. In 1710 he was, by Dr. Aldrich, inducted principal of Hart-hall, which was then an appendage to Exeter College. From this state of dependence Dr. Newton wrested it against much opposition, especially from the learned Dr. Conybeare, afterwards bishop of Bristol. In no contest were ever two men more equally matched; and the papers that passed between them, like Junius's letters, deserve to be collected for the energetic beauty of their style, and the ingenuity of their arguments. Dr. Newton, however, proved successful; and in 1740 obtained a charter, converting Hart-hall into Hertford College: of which, at a considerable expense to himself, and with great aid from his numerous friends, he was thus the founder and first head. Though this excellent man was Mr. Pelham's tutor, he never received the smallest preferment from his pupil when first minister. But Dr. Compton, bishop of London, who had a just sense of his merits, had, at an early period of his life, collated him to the rectory of Sudborough, in Northamptonshire, which he held together with the headship of Hart-hall. He resided for some years on that living, and discharged all the parts of his office with exemplary care and fidelity. Being an enemy to pluralities, he requested leave of Dr. Gibson, bishop of London, to resign his rectory in favor of his curate. But, the bishop being under an engagement to confer the living on another, Dr. Newton retained it, but bestowed all the emoluments upon works of charity, and on his curates who faithfully discharged their duty. Dr. Sherlock, who succeeded Gibson, granted Dr. Newton's request, by accepting his resignation, and collating to the rectory Mr. Saunders, who was the last of his curates. Newton was afterwards promoted to a canonry of Christ-church, but did not long enjoy it; for he died in April 1753, in the seventy-eighth year of his age. Of his works his *Theophrastus* was published after his death; and his *Pluralities Indefensible*; but he published several other pieces during his life, and left a volume of sermons prepared for the press.

NEWTON (Thomas), D. D., bishop of Bristol,

was born January 1st, 1704. His father, John Newton, was a considerable brandy and cyder merchant, who, by industry and integrity, having acquired a competent fortune, left off trade several years before he died. He received the first part of his education in the free-school of Litchfield, whence he was removed to Westminster school, in 1717, under the care of Dr. Freind and Dr. Nicoll. While he was at Westminster he became acquainted with William Murray, afterwards earl of Mansfield, with whom he lived on terms of the closest friendship till the last. He continued six years at Westminster school, and afterwards went to Trinity College, Cambridge, where he resided eight months yearly, till he had taken his degree of A. B. Being chosen fellow, he came afterwards to settle in London, and was ordained deacon in December 1729, and priest in February 1730, by bishop Gibson. He was first curate at St. George's, Hanover Square; and continued for several years assistant to Dr. Trebeck. His first preferment was that of reader and preacher at Grosvenor Chapel, in South Audley Street. This introduced him to the family of lord Tyrconnel, to whose son he became tutor. He continued in this situation for many years, on terms of great intimacy and friendship with lord and lady Tyrconnel. In spring 1744 he was, through the interest of the earl of Bath, his great friend and patron, presented to the rectory of St. Mary-le-bow. At the commencement of 1745 he took his degree of D. D. In spring 1747 he was chosen lecturer of St. George's, Hanover Square. In August 1747 he married the eldest daughter of Dr. Trebeck, with whom he lived very happily for about seven years. In 1749 he published his edition of Milton's Paradise Lost, with notes, which, in 1775, had gone through eight editions. In 1754 he lost his father, at the age of eighty-three; and within a few days his wife, at the age of thirty-eight. At that time he was, fortunately, engaged in writing his Dissertations on the Prophecies; for in any affliction he never found a more effectual remedy than plunging deep into study, and fixing his thoughts intensely upon other subjects. The first volume was published the following winter; but the other did not appear till three years afterwards; and as a reward for his past, and an incitement to future labors, he was appointed to preach Boyle's lecture: 1250 copies of the Dissertation were taken at the first impression, and 1000 at every other edition: and, after having gone through six editions in English, they were translated into the German and Danish languages; and received the warmest encomiums from persons of learning and eminence. In spring 1757 he was made prebendary of Westminster and dean of Salisbury; and in October subalmoner to his majesty. He married in September 1761 the widow of the Rev. Mr. Hand, and daughter of John lord viscount Lisburn. In the same month he was appointed bishop of

Bristol. In winter 1764 Dr. Stone, the primate of Ireland, dying, Mr. Granville sent for Newton, and offered him the primacy, but he declined it. In 1768 he was made dean of St. Paul's. From this time till his death his health declined. On Saturday, the 9th of February, 1782, he found his breath much affected by the frost; and on Thursday the 14th he died without a sigh. Of his numerous works his Dissertations on the Prophecies are by much the most valuable. His learning was very considerable, and he was the first dignitary of the church of England who avowed his belief of the final restitution of all things to harmony and happiness.

NEWTON (Rev. John), a late exeuplary divine, born in London in 1725, was bred to the sea under his father, who was master of a merchantman. Afterwards he sailed in the Guinea trade, and led an irregular life for some years; but at last grew both serious and studious. Quitting his connexion with the African coast in disgust, he became a tide waiter at Liverpool; preached occasionally amongst the Dissenters; and for some time endeavoured to procure a pastoral settlement among them. At length however, having by great diligence attained a knowledge of the Latin and Greek languages, he was, in 1764, ordained on the curacy of Olney, in Buckinghamshire, where he became acquainted with the poet Cowper, and Mr. Thornton the banker; the latter of whom presented him, in 1779, to the living of St. Mary Woolnoth, Lombard Street. He died in 1807. His works are, 1. A Narrative of his own Life, 12mo. 2. A Review of Ecclesiastical History, 8vo. 3. Olney Hymns, in which are some by his friend Cowper. 4. Omicron's Letters on Religious Subjects. 5. Cardiphonia, or the Utterance of the Heart, 2 vols. 6. The Messiah, a Series of Sermons, 2 vols.

NEWTON, a township of the United States, Middlesex county, Massachusetts, on the river Charles, nine miles west of Boston. Population 1709.—2. A township of Delaware county, Pennsylvania.—3. A township of Cumberland county, Pennsylvania.—4. A township of Licking county, Ohio.—5. A township of Miami county, Ohio.—6. A township of Muskingum county, Ohio.—7. A township of Trumbull county, Ohio.

NEWTON UPON AYR, a sea-port town, and burgh of barony, on the Ayr. It has a harbour for vessels under 140 tons, and a light-house. Ship-building is carried on with spirit and success; as well as a rope-walk and salmon-fishing. But the chief trade is the exportation of coals; above 300 vessels annually sail to Dublin, Belfast, &c., loaded with that article. Newton has two charters from James VI., dated 1595 and 1600; in which it is styled Nova Villa super Ayr. It is governed by two baillies, a treasurer, and six counsellors. The freemen have considerable privileges.

NEWTONIAN PHILOSOPHY

SECT. I.—DEFINITIONS AND HISTORY.

The NEWTONIAN PHILOSOPHY as the true doctrine of the universe, and particularly of the heavenly bodies, their laws, affections, &c., deserves distinct notice in every compendium of general science.

The term Newtonian philosophy is applied very differently; and various confused notions have hence arisen. Some authors under this term include all the corpuscular philosophy, considered as it now stands corrected and reformed by the discoveries and improvements made by Sir Isaac Newton. In this sense Gravesande calls his elements of physics *Introductio ad Philosophiam Newtonianam*. And in this sense the Newtonian is the same with the new philosophy; and stands contradistinguished from the Cartesian, the Peripatetic, and the ancient Corpuscular. Others, by the Newtonian philosophy, mean the method or order which Sir Isaac Newton observes in philosophising; viz. the reasoning and the conclusions drawn directly from phenomena, exclusive of all previous hypotheses; the beginning from simple principles; deducing the first powers and laws of nature from a few select phenomena, and then applying those laws, &c., to account for other things. And in this sense the Newtonian philosophy is the same with the experimental philosophy, and stands opposed to the ancient corpuscular. Others, by the Newtonian philosophy, intend that wherein physical bodies are considered mathematically, and where geometry and mechanics are applied to the solution of the appearances of nature. In this sense the Newtonian is the same with the mechanical and mathematical philosophy. Others, again, understand by it that part of physical knowledge which Sir Isaac Newton has handled, improved, and demonstrated, in his *Principia*; while, lastly, others mean by this phrase the new principles which Sir Isaac Newton has brought into philosophy, the new system founded thereon, and the new solutions of phenomena thence deduced; or that which characterises and distinguishes his philosophy from all others. This is the sense wherein we shall chiefly consider it.

The origin and history of this system of philosophy has been given under the article NEWTON. It was first made public in 1687 by its author, then a fellow of Trinity College, Cambridge; and in 1713 republished with considerable improvements. Several authors have since attempted to make it plainer, by setting aside many of the more sublime mathematical researches, and substituting either more obvious reasonings or experiments in lieu thereof; particularly Whiston in his *Prælect. Phys. Mathemat.*; Gravesande in *Element. et Instit.*; and Dr. Pemberton in his *View*.

SECT. II.—DEFINITIONS ON WHICH THE NEWTONIAN PHILOSOPHY IS FOUNDED.

The whole of the Newtonian philosophy, as delivered by the author, is contained in his *Principia*, or *Mathematical Principles of Natural*

Philosophy. He finds his system on the following definitions:—1. The quantity of *matter* is the measure of the same, arising from its density and bulk conjunctly. Thus air of a double density, in a double space, is quadruple in quantity; in a triple space, sextuple in quantity, &c. 2. The quantity of *motion* is the measure of the same, arising from the velocity and quantity of matter conjunctly. This is evident, because the motion of the whole is the motion of all its parts; and therefore in a body double in quantity, with equal velocity, the motion is double, &c. 3. The *vis insita*, or innate force of matter, is a power of resistance, by which every body, as much as in it lies, endeavours to persevere in its present state, whether it be of rest, or moving uniformly forward in a right line. This definition is proved to be just, only by the difficulty we find in moving any thing out of its place; and this difficulty is by some reckoned to proceed only from gravity. They contend that, in those cases where we can prevent the force of gravity from acting upon bodies, this power of resisting becomes insensible, and the greatest quantities of matter may be put in motion by the very least force. Thus there have been balances formed so exact that, when loaded with 200 weight in each scale, they would turn by the addition of a single drachm. In this case 400 pounds of matter was put in motion by a single drachm, i. e. by $\frac{1}{5000}$ th part of its own quantity; and even this small weight, they say, is only necessary on account of the inaccuracy of the machine; so that we have no reason to suppose that, if the friction could be entirely removed, it would take more force to move a ton weight than a grain of sand. This objection, however, is not taken notice of by Sir Isaac; and he bestows on the resisting power above mentioned the name of *vis inertia*; a phrase which is perhaps not well chosen, and with which inferior writers have endeavoured to make their readers smile at the expense of Newton. A force of inactivity, it has been said, is a forceless force; and analogous to a black white, a cold heat, and a tempestuous calm.

But objections of more importance have been made to the whole of this doctrine than those which merely respect the term *vis inertia*. ‘An endeavour to remain at rest,’ says Young, in his *Examination of the third and fourth Definition of the first book of the Principia*, ‘is unnecessary, whilst nothing attempts to disturb the rest. It is likewise impossible to be conceived, as it implies a contradiction. A man, by opposing force to force, may endeavour not to be moved; but this opposition is an endeavour to move, not with a design to move, but by counteracting another force to prevent being moved. An endeavour not to move, therefore, cannot exist in bodies, because it is absurd; and if we appeal to fact, we shall find every body in an actual and constant endeavour to move.’ It has been likewise observed, and we think justly, that ‘if bodies could continue to move by any innate force, they might

also begin to move by that force; for the same cause which can move a body with a given velocity at one time, could do it if present at any other time; and therefore, if the force by which bodies continue in motion were innate and essential to them, they would begin to move of themselves, which is not true.' Newton indeed says, that this innate force is the cause of motion under certain circumstances only, or when the body is acted upon by a force impressed ab extra. But if this impressed force do not continue as well as begin the motion; if it cease the instant that the impression is over, and the body continue to move by its vis inertiae, why is the body ever stopped? 'If, in the beginning of the motion, the body, by its innate force, overcomes a certain resistance of friction and air; in any following times, the force being undiminished, it will overcome the same resistance for ever. These resistances, therefore, could never change the state of a moving body, because they cannot change the quantity of its motive force. But this is contrary to universal experience.' For these reasons we are inclined to think that bodies are wholly passive; that they endeavour nothing; and that they continue in motion, not by an innate force or vis insita, but by that force, whatever it be, which begins the motion, and which, whilst it remains with the moving body, is gradually diminished, and at last overcome by opposite forces, when the body of course ceases to move.

4. An *impressed force* is an action exerted upon a body, in order to change its state, either of rest, or of moving uniformly forward in a right line. This force consists in the action only, and remains no longer in the body when the action is over. For a body maintains every new state it acquires by its vis inertiae only. It is here implied, and indeed fully expressed, that motion is not continued by the same power that produced it. Now there are two grounds on which the truth of this doctrine may be supposed to rest. 1. On a direct proof that the impressed force does not remain in the body, either by showing the nature of the force to be transitory, and incapable of more than its first action; or that it acts only on the surface, and that the body escapes from it; or that the force is somewhere else, and not remaining in the body. But none of these direct proofs are offered. 2. It may rest on an indirect proof, that there is in the nature of body a sufficient cause for the continuance of every new state acquired; and that therefore any adventitious force to continue motion, though necessary for its production, is superfluous and inadmissible. As this is the very ground on which the supposition stands, it ought to have been indubitably certain that the innate force of the body is sufficient to perpetuate the motion it has once acquired, before the other agent, by which the motion was communicated had been dismissed from the office. But the innate force of body has been shown not to be that which continues its motion; and therefore the proof, that the impressed force does not remain in the body, fails. Nor indeed is it in this case desirable to support the proof, because we should then be left without any reason for the continuance of motion.' When we mention an

impressed force, we mean such a force as is communicated either at the surface of the body or by being diffused through the mass.

5. A *centripetal force* is that by which bodies are drawn, impelled, or any way tend towards a point, or to a centre. The quantity of any centripetal force may be considered as of three kinds, absolute, accelerative, and motive.

6. The *absolute* quantity of a centrifugal force is the measure of the same, proportional to the efficacy of the cause that propagates it from the centre, through the spaces round about.

7. The *accelerative* quantity of a centripetal force is the measure of the same, proportional to the velocity which it generates in a given time.

8. The *motive* quantity of a centripetal force is a measure of the same, proportional to the motion which it generates in a given time.—This is always known by the quantity of a force equal and contrary to it, that is just sufficient to hinder the descent of the body.

SECT. III.—OF TIME, SPACE, PLACE, AND MOTION.

Scholium I. Absolute, true, and mathematical *time*, of itself, and from its own nature, flows equally, without regard to any thing external, and, by another name, is called duration. Relative, apparent, and common time, is some sensible and external measure of duration, whether accurate or not, which is commonly used instead of true time; such as an hour, a day, a month, a year, &c.

II. Absolute *space*, in its own nature, without regard to any thing external, remains always similar and immovable. Relative space is some moveable dimension or measure of the absolute spaces; and which is vulgarly taken for immovable space. Such is the dimension of a subterraneous, an aerial, or celestial space, determined by its position to bodies, and which is vulgarly taken for immovable space; as the distance of a subterraneous, and aerial, or celestial space, determined by its position in respect of the earth. Absolute and relative space are the same in figure and magnitude; but they do not remain always numerically the same. For if the earth, for instance, moves, a space of our air, which relatively and in respect of the earth remains always the same, will at one time be one part of the absolute space into which the earth passes; at another time it will be another part of the same; and so, absolutely understood, it will be perpetually mutable.

III. *Place* is a part of space which a body takes up: and is, according to the space, either absolute or relative. Our author says it is part of space; not the situation, nor the external surface of the body. For the places of equal solids are always equal; but their superficies, by reason of their dissimilar figures, are often unequal. Positions properly have no quantity, nor are they so much the places themselves as the properties of places. The motion of the whole is the same thing with the sum of the motions of the parts; that is, the translation of the whole out of its place is the same thing with the sum of the translations of the parts out of their places: and therefore the place of the whole is the same thing with the sum of the places of the parts; and

for that reason it is internal, and in the whole body.

IV. Absolute *motion* is the translation of a body from one absolute place into another, and relative motion the translation from one relative place into another. Thus, in a ship under sail, the relative place of a body is that part of the ship which the body possesses, or that part of its cavity which the body fills, and which therefore moves together with the ship; and relative rest is the continuance of the body in the same part of the ship, or of its cavity. But real absolute rest is the continuance of the body in the same part of that immoveable space in which the ship itself, its cavity, and all that it contains, is moved. Wherefore, if the earth is really at rest, the body which relatively rests in the ship, will really and absolutely move with the same velocity which the ship has on the earth. But, if the earth also moves, the true and absolute motion of the body will arise, partly from the true motion of the earth in immoveable space, partly from the relative motion of the ship on the earth: and if the body moves also relatively in the ship, its true motion will arise partly from the true motion of the earth in immoveable space, and partly from the relative motions as well of the ship on the earth as of the body in the ship; and from these relative motions will arise the relative motion of the body on the earth. As if that part of the earth where the ship is was truly moved towards the east, with a velocity of 10,010 parts; while the ship itself with a fresh gale is carried towards the west, with a velocity expressed by ten of these parts; but a sailor walks in the ship towards the east with one part of the said velocity: then the sailor will be moved truly and absolutely in immoveable space towards the east with a velocity of 1001 parts; and relatively on the earth, towards the west, with a velocity of nine of those parts.

Absolute time, in astronomy, is distinguished from relative, by the equation or correction of the vulgar time. For the natural days are truly unequal, though they are commonly considered as equal, and used for a measure of time: astronomers correct this inequality for the more accurate deducing of the celestial motions. It may be that there is no such thing as an equable motion whereby time may be accurately measured. All motions may be accelerated or retarded; but the true or equable progress of absolute time is liable to no change. The duration or perseverance of the existence of things remains the same, whether the motions are swift or slow, or none at all; and therefore ought to be distinguished from what are only sensible measures thereof, and out of which we collect it by means of the astronomical equation. The necessity of which equation for determining the times of a phenomenon is evinced, as well from the experiments of the pendulum clock as by eclipses of the satellites of Jupiter.

As the order of the parts of time is immutable, so also is the order of the parts of space. Suppose those parts to be moved out of their places, and they will be moved (if we may be allowed the expression) out of themselves. For times and spaces are, as it were, the places of them-

selves as of all other things. All things are placed in time as to order of succession; and in space as to order of situation. It is from their essence or nature that they are places; and that the primary places of things should be moveable is absurd. These are therefore the absolute places; and translations out of those places are the only absolute motions. But because the parts of space cannot be seen, or distinguished from one another by the senses, therefore in their stead we use sensible measures of them. For, from the positions and distances of things from any body, considered as immoveable, we define all places; and then, with respect to such places, we estimate all motions, considering bodies as transferred from some of those places into others. And so, instead of absolute places and motions, we use relative ones; and that without any inconvenience in common affairs: but in philosophical disquisitions we ought to abstract from our senses, and consider things themselves distinct from what are only sensible measures of them. For it may be that there is no body really at rest, to which the places and motions of others may be referred.

But we may distinguish *rest* and *motion*, absolute and relative, one from the other, by their properties, causes and effects. It is a property of rest, that bodies really at rest do rest in respect of each other. And therefore, as it is possible that in the remote regions of the fixed stars, or perhaps far beyond them, there may be some body absolutely at rest, though it be impossible to know from the position of bodies to one another in our regions whether any of these do keep the same position to that remote body; it follows that absolute rest cannot be determined from the position of bodies in our regions. It is a property of motion, that the parts which retain given positions to their wholes do partake of the motion of their wholes. For all parts of revolving bodies endeavour to recede from the axis of motion; and the impetus of bodies moving forwards arises from the joint impetus of all the parts. Therefore, if surrounding bodies are moved, those that are relatively at rest within them will partake of their motion. Upon which account the true and absolute motion of a body cannot be determined by the translation of it from those only which seem to rest; for the external bodies ought not only to appear at rest, but to be really at rest. For otherwise all included bodies, beside their translation from near the surrounding ones, partake likewise of their true motions; and, though that translation was not made, they would not really be at rest, but only seem to be so. For the surrounding bodies stand in the like relation to the surrounded as the exterior part of a whole does to the interior, or as the shell does to the kernel; but, if the shell moves, the kernel will also move, as being part of the whole, without any removal from near the shell.

A property near akin to the proceeding is, that if a place is moved, whatever is placed therein moves along with it; and therefore a body which is moved from a place in motion partakes also of the motion of its place. Upon which account all motions from places in motion are no other

than parts of entire and absolute motions; and every entire motion is composed of the motion of the body out of its first place, and the motion of this place out of its place; and so on, until we come to some immovable place, as in the above-mentioned example of the sailor. Wherefore entire and absolute motions can be no otherwise determined than by immovable places. Now no other places are immovable but those that from infinity to infinity do all retain the same given positions one to another; and upon this account must ever remain unmoved, and do thereby constitute what we call *immovable space*.

The causes by which true and relative motions are distinguished one from the other are the forces impressed upon bodies to generate motion. True motion is neither generated nor altered, but by some force impressed upon the body moved: but relative motion may be generated or altered without any force impressed upon the body. For it is sufficient only to impress some force on other bodies with which the former is compared, that, by their giving way, that relation may be changed, in which the relative rest or motion of the other body did consist. Again, true motion suffers always some change from any force impressed upon the moving body; but relative motion does not necessarily undergo any changes by such force. For if the same forces are likewise impressed on those other bodies with which the comparison is made, that the relative position may be preserved; then that condition will be preserved in which the relative motion consists. And therefore any relative motion may be changed when the true motion remains unaltered, and the relative may be preserved when the true motion suffers some change. Upon which account true motion does by no means consist in such relations.

SECT. IV.—OF THE DIFFERENCE BETWEEN ABSOLUTE AND RELATIVE MOTION.

The effects which distinguish absolute from relative motion are the forces of receding from the axis of circular motion. For there are no such forces in a circular motion purely relative; but, in a true and absolute circular motion, they are greater or less according to the quantity of the motion. If a vessel, hung by a long cord, is so often turned about that the cord is strongly twisted, then filled with water, and let go, it will be whirled about the contrary way; and, while the cord is untwisting itself, the surface of the water will at first be plain, as before the vessel began to move; but the vessel, by gradually communicating its motion to the water, will make it begin sensibly to revolve, and recede by little and little from the middle, and ascend to the sides of the vessel, forming itself into a concave figure; and the swifter the motion becomes, the higher will the water rise, till at last, performing its revolutions in the same times with the vessel, it becomes relatively at rest in it. This ascent of the water shows its endeavour to recede from the axis of its motion; and the true and absolute circular motion of the water, which is here directly contrary to the relative, discovers itself, and may be measured by this endeavour. At first, when

the relative motion in the water was greatest, it produced no endeavour to recede from the axis; the water showed no tendency to the circumference, nor any ascent towards the sides of the vessel, but remained of a plain surface; and therefore its true circular motion had not yet begun.

But afterwards, when the relative motion of the water had decreased, the ascent thereof towards the sides of the vessel proved its endeavour to recede from the axis; and this endeavour showed the real circular motion of the water perpetually increasing, till it had acquired its greatest quantity, when the water rested relatively in the vessel. And therefore this endeavour does not depend upon any translation of the water in respect of the ambient bodies; nor can true circular motion be defined by such translations. There is only one real circular motion of any one revolving body, corresponding to only one power of endeavouring to recede from its axis of motion, as its proper and adequate effect: but relative motions in one and the same body are innumerable, according to the various relations it bears to external bodies; and, like other relations, are altogether destitute of any real effect, otherwise than they may perhaps participate of that only true motion. And therefore, in the system which supposes that our heavens, revolving below the sphere of the fixed stars, carry the planets along with them, the several parts of those heavens and the planets, which are indeed relatively at rest in their heavens, do yet really move. For they change their position one to another, which never happens to bodies truly at rest; and, being carried together with the heavens, participate of their motions, and, as parts of revolving wholes, endeavour to recede from the axis of their motion. Wherefore relative quantities are not the quantities themselves whose names they bear, but those sensible measures of them, either accurate or inaccurate, which are commonly used instead of the measured quantities themselves. And then, if the meaning of words is to be determined by their use, by the names time, space, place, and motion, their measures are properly to be understood; and the expression will be unusual, and purely mathematical, if the measured quantities themselves are meant.

It is indeed a matter of great difficulty to discover, and effectually to distinguish, the true motions of particular bodies from those that are only apparent: because the parts of that immovable space in which these motions are performed do by no means come under the observation of our senses. Yet we have some things to direct us in this intricate affair; and these arise partly from the apparent motions, partly from the forces which are the causes and effects of the true motions. For instance, if two globes, kept at a given distance one from the other by a cord that connects them, were revolved about their common centre of gravity; we might, from the tension of the cord, discover the endeavour of the globes to recede from the axis of motion, and thence we might compute the quantity of their circular motions. And then, if any equal forces should be impressed at once on the alternate faces of the globes to augment or diminish their circular motions, from the increase or de-

crease of the tension of the cord, we might infer the increment or decrement of their motions; and thence would be found on what faces those forces ought to be impressed, that the motions of the globes might be most augmented; that is, we might discover their hindermost faces, or those which follow in the circular motion. But the faces which follow being known, and consequently the opposite ones that precede, we should likewise know the determination of their motions. And thus we might find both the quantity and determination of this circular motion, even in an immense vacuum, where there was nothing external or sensible, with which the globes might be compared. But now, if in that space some remote bodies were placed that kept always a given position one to another, as the fixed stars do in our regions; we could not indeed determine from the relative translation of the globes among those bodies, whether the motion did belong to the globes or to the bodies. But if we observed the cord, and found that its tension was that very tension which the motions of the globes required, we might conclude the motion to be in the globes, and the bodies to be at rest; and then, lastly, from the translation of the globes among the bodies, we should find the determination of their motions.

SECT. V.—OF THE LAWS OF MOTION.

Having thus explained himself Sir Isaac Newton proposes to show how we are to collect the true motions from their causes, effects, and apparent differences; and vice versâ, how, from the motions, either true or apparent, we may come to the knowledge of their causes and effects. In order to this, he lays down the following axioms or laws of motion.

1. *Every body perseveres in its state of rest, or of uniform motion in a right line, unless it is compelled to change that state by forces impressed upon it.*—Sir Isaac's proof of this axiom is as follows:—'Projectiles persevere in their motions, so far as they are not retarded by the resistance of the air, or impelled downwards by the force of gravity. A top, whose parts, by their cohesion, are perpetually drawn aside from rectilinear motions, does not cease its rotation otherwise than as it is retarded by the air. The greater bodies of the planets and comets, meeting with less resistance in more free spaces, preserve their motions, both progressive and circular, for a much longer time.' Notwithstanding this demonstration, however, the axiom has been violently disputed. It has been argued, that bodies continue in their state of motion because they are subjected to the continual impulse of an invisible and subtle fluid, which always pours in from behind, and of which all places are full. It has been affirmed that motion is as natural to this fluid as rest is to all other matter; that it is impossible we can know in what manner a body would be influenced by moving forces if it were entirely destitute of gravity. According to what we can observe, the momentum of a body, or its tendency to move, depends very much on its gravity. A heavy cannon ball will fly to a much greater distance than a light one, though both are actuated by an equal force. It is by no

means clear, therefore, that a body totally destitute of gravity would have any proper momentum of its own; and, if it had no momentum, it could not continue its motion for the smallest space of time after the moving power was withdrawn. Some have imagined that matter was capable of beginning motion of itself, and consequently that the axiom was false; because we see plainly that matter in some cases has a tendency to change from a state of motion to a state of rest, and from a state of rest to a state of motion. A paper appeared on this subject in the first volume of the Edinburgh Physical and Literary Essays; but the hypothesis never gained any ground.

2. *The alteration of motion is ever proportional to the motive force impressed; and is made in the direction of the right line in which that force is impressed.*—Thus, if any force generates a certain quantity of motion, a double force will generate a double quantity, whether that force be impressed all at once, or in successive moments. To this law no objection of consequence has ever been made. It is founded on this self-evident truth that every effect must be proportional to its cause. Mr. Young, who seems fond of detecting the errors of Newton, finds fault indeed with the expressions in which the law is stated; but he owns, that if thus expressed, *The alteration of motion is proportional to the actions or resistances which produce it, and is in the direction in which the actions or resistances are made,* it would be unexceptionable.

3. *To every action there always is opposed an equal re-action; or the mutual action of two bodies upon each other are always equal, and directed to contrary parts.*—This axiom is also disputed by many. In the above-mentioned paper in the Physical Essays the author endeavours to make a distinction between re-action and resistance; and the same attempt has been made by Mr. Young. 'When an action generates no motion,' says he, 'it is certain that its effects have been destroyed by a contrary and equal action. When an action generates two contrary and equal motions it is also evident that mutual actions were exerted, equal and contrary to each other. All cases where one of these conditions is not found are exceptions to the truth of the law. If a finger presses against a stone, the stone, if it does not yield to the pressure, presses as much upon the finger; but, if the stone yields, it reacts less than the finger acts; and if it should yield with all the momentum that the force of the pressure ought to generate, which it would do if it were not impeded by friction, or a medium, it would not re-act at all. So if the stone drawn by a horse follows after the horse it does not re-act so much as the horse acts; but only so much as the velocity of the stone is diminished by friction, and it is the re-action of friction only, not of the stone. The stone does not react because it does not act; it resists, but resistance is not action. In the loss of motion from a striking body, equal to the gain in the body struck, there is a plain solution without requiring any re-action. The motion lost is identically that which is found in the other body; this supposition accounts for the whole phenomenon in

the most simple manner. If it be not admitted, but the solution by re-action is insisted upon, it will be incumbent on the party to account for the whole effect of communication of motion; otherwise he will lie under the imputation of rejecting a solution which is simple, obvious, and perfect; for one complex, unnatural, and incomplete. However this may be determined, it will be allowed that the circumstances mentioned afford no ground for the inference, that action and re-action are equal, since appearances may be explained in another way.

Thus, if there be a perfect reciprocity betwixt an impinging body and a body at rest sustaining its impulse, may we not at our pleasure consider either body as the agent, and the other as the resistant? Let a moving body, A, pass from north to south, an equal body B at rest, which receives the stroke of A, act upon A from south to north, and A resist in a contrary direction, both inelastic: let the motion reciprocally communicated be called six. Then B at rest communicates to A six degrees of motion towards the north, and receives six degrees towards the south. B, having no other motion than the six degrees it communicated, will, by its equal and contrary loss and gain, remain in equilibrio. Let the original motion of A have been twelve, then A received a contrary action equal to six, six degrees of its motion will be destroyed or in equilibrio; consequently, a motive force as six will remain to A towards the south, and B will be in equilibrio, or at rest. A will then endeavour to move with six degrees, or half its original motion, and B will remain at rest as before. A and B being equal masses, by the laws of communication three degree of motion will be communicated to B, or A with its six degrees will act with three, and B will re-act also with three, B then will act on A from south to north equal to three, while it is acted upon or resisted by A from north to south, equal also to three, and B will remain at rest as before; A will also have its six degrees of motion reduced to one half by the contrary action of B, and only three degrees of motion will remain to A, with which it will yet endeavour to move; and, finding B still at rest, the same process will be repeated till the whole motion of A is reduced to an infinitely small quantity, B all the while remaining at rest, and there will be no communication of motion from A to B, which is contrary to experience.

Let a body, A, whose mass is twelve, at rest, be impinged upon first by B, having a mass as twelve, and a velocity as four, making a momentum of forty-eight; and 2dly, by C, whose mass is six, and velocity eight, making a momentum of forty-eight equal to B, the three bodies being inelastic. In the first case, A will become possessed of a momentum of twenty-four, and twenty-four will remain to B; and, in the 2d case, A will become possessed of a momentum of thirty-two, and sixteen will remain to C, both bodies moving with equal velocities after the shock, in both cases, by the laws of percussion. It is required to know, if in both cases A resists equally, and if B and C act equally? If the actions and resistances are equal, how does A in the one case destroy twenty-four parts of B's

motion, and in the other case thirty-two parts of C's motion, by an equal resistance? And how does B communicate in one case twenty-four degrees of motion, and C thirty-two, by equal actions? If the actions and resistances are equal, it is asked how the same mass can resist differently to bodies impinging upon it with equal momenta, and how bodies possessed of equal momenta can exert different actions, it being admitted that bodies resist proportional to their masses, and that their power of overcoming resistance is proportional to their momenta?—It is incumbent on those who maintain the doctrine of universal re-action to free it from these difficulties and apparent contradictions.

Others grant that Sir Isaac's axiom is very true with respect to terrestrial substances; but they affirm, that, in these, both action and reaction are the effects of gravity. Substances void of gravity would have no momentum; and without this they could not act; they would be moved by the least force, and therefore could not resist or re-act. If, therefore, there is any fluid which is the cause of gravity, though such fluid could act upon terrestrial substances, yet these could not re-act upon it, because they have no force of their own, but depend entirely upon it for their momentum. In this manner, say they, we may conceive that the planets circulate, and all the operations of nature are carried on by means of a subtle fluid; which being perfectly active, and the rest of matter altogether passive, there is neither resistance nor loss of motion.

From the preceding axiom Sir Isaac draws the following corollaries:—1. A body by two forces conjoined will describe the diagonal of a parallelogram in the same time that it would describe the sides by those forces apart. 2. Hence we may explain the composition of any one direct force out of any two oblique ones, viz. by making the two oblique forces the sides of a parallelogram, and the direct one the diagonal. 3. The quantity of motion which is collected by taking the sum of the motions directed towards the same parts, and the difference of those that are directed to contrary parts, suffers no change from the action of bodies among themselves; because the motion which one body loses is communicated to another; and, if we suppose friction and the resistance of the air to be absent, the motion of a number of bodies which mutually impelled one another would be perpetual, and its quantity always equal. 4. The common centre of gravity of two or more bodies does not alter its state of motion or rest by the actions of the bodies among themselves; and therefore the common centre of gravity of all bodies acting upon each other (excluding outward actions and impediments) is either at rest, or moves uniformly in a right line. 5. The motions of bodies included in a given space are the same among themselves, whether that space is at rest, or moves uniformly forward in a right line without any circular motion. The truth of this is evidently shown by the experiment of a ship, where all motions happen after the same manner, whether the ship is at rest, or proceeds uniformly forward in a straight line. 6. If bodies, any how moved among themselves, are urged in the

direction of parallel lines by equal accelerative forces, they will all continue to move among themselves, after the same manner as if they had been urged by no such forces.

The whole of the *mathematical part* of the Newtonian philosophy depends on the following lemmas; of which the first is the principal.

LEM. I. Quantities, and the ratios of quantities, which in any finite time converge continually to equality, and before that time approach nearer the one to the other than by any given difference, become ultimately equal. If you deny it; suppose them to be ultimately unequal, and let D be their ultimate difference. Therefore they cannot approach nearer to equality than by that given difference D; which is against the supposition.

Concerning the meaning of this lemma philosophers are not agreed; and unhappily it is the very fundamental position on which the whole of the system rests. Many objections have been raised to it by people who supposed themselves capable of understanding it. They say that it is impossible we can come to an end of any infinite series, and therefore that the word ultimate can in this case have no meaning. In some cases the lemma is evidently false. Thus, suppose there are two quantities of matter, A and B, the one containing half a pound, and the other a third part of one. Let both be continually divided by two; and though their ratio, or the proportion of the one to the other, does not vary, yet the difference between them perpetually becomes less, as well as the quantities themselves, until both the difference and quantities themselves become less than any assignable quantity; yet the difference will never totally vanish, nor the quantities become equal, as is evident from the two following series:—

$$\begin{array}{r} \frac{1}{2} \quad \frac{1}{4} \quad \frac{1}{8} \quad \frac{1}{16} \quad \frac{1}{32} \quad \frac{1}{64} \quad \frac{1}{128} \quad \frac{1}{256} \quad \frac{1}{512} \quad \frac{1}{1024} \quad \&c. \\ \frac{1}{3} \quad \frac{1}{6} \quad \frac{1}{12} \quad \frac{1}{24} \quad \frac{1}{48} \quad \frac{1}{96} \quad \frac{1}{192} \quad \frac{1}{384} \quad \frac{1}{768} \quad \frac{1}{1536} \quad \&c. \\ \text{Diff.} \quad \frac{1}{6} \quad \frac{1}{12} \quad \frac{1}{24} \quad \frac{1}{48} \quad \frac{1}{96} \quad \frac{1}{192} \quad \frac{1}{384} \quad \frac{1}{768} \quad \frac{1}{1536} \quad \frac{1}{3072} \quad \&c. \end{array}$$

Thus we see that though the difference is continually diminishing, and that in a very large proportion, there is no hope of its vanishing, or the quantities becoming equal. In like manner, let us take the proportions or ratios of quantities, and we shall be equally unsuccessful. Suppose two quantities of matter, one containing eight and the other ten pounds: these quantities already have to each other the ratio of eight to ten, or of four to five; but let us add two continually to each of them, and, though the ratios continually come nearer to that of equality, it is in vain to hope for a perfect coincidence. Thus,

$$\begin{array}{r} \text{Ratio} \quad \frac{8}{5} \quad \frac{10}{6} \quad \frac{12}{7} \quad \frac{14}{8} \quad \frac{16}{9} \quad \frac{18}{10} \quad \frac{20}{11} \quad \frac{22}{12} \quad \frac{24}{13} \quad \&c. \\ \frac{10}{5} \quad \frac{12}{6} \quad \frac{14}{7} \quad \frac{16}{8} \quad \frac{18}{9} \quad \frac{20}{10} \quad \frac{22}{11} \quad \frac{24}{12} \quad \frac{26}{13} \quad \&c. \end{array}$$

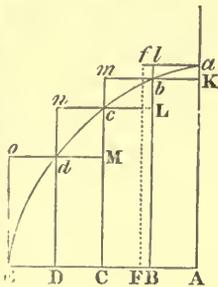
For this and his other lemmas Sir Isaac makes the following apology:—‘These lemmas are premised, to avoid the tediousness of deducing perplexed demonstrations ad absurdum, according

to the method of ancient geometers. For demonstrations are more contracted by the method of indivisibles; but because the hypothesis of indivisibles seems somewhat harsh, and therefore that method is reckoned less geometrical, I chose rather to reduce the demonstrations of the following propositions to the first and last sums and ratios of nascent and evanescent quantities, that is, to the limits of those sums and ratios; and so to premise, as short as I could, the demonstrations of those limits. For hereby the same thing is performed as by the method of indivisibles; and now, those principles being demonstrated, we may use them with more safety. Therefore, if hereafter I should happen to consider quantities as made up of particles, or should use little curve lines for right ones, I would not be understood to mean indivisibles, but evanescent divisible quantities; not the sums and ratios of determinate parts, but always the limits of sums and ratios; and that the force of such demonstrations always depends on the method laid down in the foregoing lemmas.

‘Perhaps it may be objected that there is no ultimate proportion of evanescent quantities, because the proportion before the quantities have vanished, is not the ultimate, and, when they are vanished, is none. But by the same argument it may be alleged that a body arriving at a certain place, and there stopping, has no ultimate velocity; because the velocity before the body comes to the place is not its ultimate velocity, when it is arrived it has none. But the answer is easy; for by the ultimate velocity is meant that with which the body is moved, neither before it arrives at its place and the motion ceases, nor after, but at the very instant it arrives; that is, that velocity with which the body arrives at its last place, and with which the motion ceases. And in like manner, by the ultimate ratio of evanescent quantities is to be understood the ratio of the quantities, not before they vanish, nor afterwards, but with which they vanish. In like manner, the first ratio of nascent quantities is that with which they begin to be. And the first or last sum is that with which they begin and cease to be (or to be augmented and diminished). There is a limit which the velocity at the end of the motion may attain, but not exceed; and this is the ultimate velocity. And there is the like limit in all quantities and proportions that begin and cease to be. And, since such limits are certain and definite, to determine the same is a problem strictly geometrical. But whatever is geometrical we may be allowed to make use of in determining and demonstrating any other thing that is likewise geometrical.

‘It may also be objected, that, if the ultimate ratios of evanescent quantities are given, their ultimate magnitudes will be also given; and so all quantities will consist of indivisibles, which is contrary to what Euclid has demonstrated concerning incommensurables, in the tenth book of his elements. But this objection is founded on a false supposition. For those ultimate ratios with which quantities vanish are not truly the ratios of ultimate quantities, but limits towards which the ratios of quantities decreasing continually approach.’

Lem. II. If in the figure $AacE$, terminated by the right line Aa , AE , and the curve acE , there be inscribed any number of parallelograms $Ab, Bc, Cd, \&c.$, comprehended under equal bases $AB, Bc, Cd, \&c.$, and the sides $Bb, Cc, Dd, \&c.$, parallel to one side Aa of the figure; and the parallelograms $aKbl, bLcm, cMdn, \&c.$ are completed. Then if the



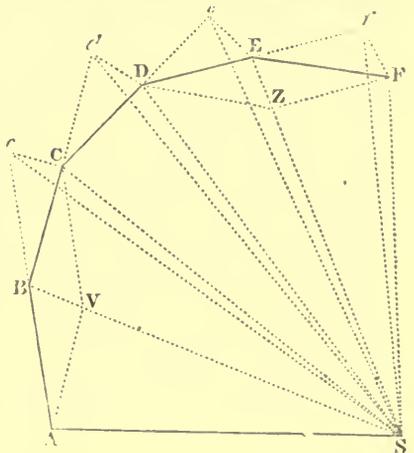
breadth of these parallelograms be supposed to be diminished, and their number augmented in infinitum, the ultimate ratios which the inscribed figure $aKblcm dD$, the circumscribed figure $AalbmncndoE$, and curvilinear figure $AabcdE$, will have to one another, are ratios of equality.—For the difference of the inscribed and circumscribed figures is the sum of the parallelograms Kl, Lm, Mn, Do ; that is (from the equality of all their bases), the rectangle under one of their bases Kb , and the sum of their altitudes Aa , that is, the rectangle $AbLa$. But this rectangle, because its breadth AB is supposed diminished in infinitum, becomes less than any given space. And therefore, by lem. I., the figures inscribed and circumscribed become ultimately equal the one to the other; and much more will the intermediate curvilinear figure be ultimately equal to either.

Lem. III. The same ultimate ratios are also ratios of equality, when the breadths $AB, Bc, Cd, \&c.$, of the parallelograms are unequal, and are all diminished in infinitum.—The demonstration of this differs but little from that of the former.

In his succeeding lemmas, Sir Isaac goes on to prove, in a manner similar to the above, that the ultimate ratios of the sine, chord, and tangent of arcs infinitely diminished, are ratios of equality; and, therefore, that in all our reasonings about these we may safely use the one for the other:—that the ultimate form of evanescent triangles made by the arc, chord, and tangent, is that of similitude, and their ultimate ratio is that of equality; and hence, in reasonings about ultimate ratios, we may safely use these triangles for each other, whether made with the sine, the arc, or the tangent.—He then shows some properties of the ordinates of curvilinear figures; and proves that the spaces which a body describes by any finite force urging it, whether that force is determined and immutable, or is continually augmented or continually diminished, are, in the very beginning of the motion, one to the other in the duplicate ratio of the powers. And, lastly, having added some demonstrations concerning the evanescence of angles of contact, he proceeds to lay down the mathematical part of his system, and which depends on the following theorems:—

Theor. I. The areas which revolving bodies describe, by radii drawn to an immovable centre of force, lie in the same immovable planes, and are proportional to the times in which they

are described.—For, suppose the time to be divided into equal parts, and in the first part of that time let the body by its innate force describe the right line AB , in the following diagram—



In the second part of that time, the same would, by law 1, if not hindered, proceed directly to c along the line $Bc = AB$: so that by the radii AS, BS, cS , drawn to the centre, the equal areas ASB, BSc , would be described. But, when the body is arrived at B , suppose the centripetal force acts at once with a great impulse, and, turning aside the body from the right line Bc , compels it afterwards to continue its motion along the right line BC . Draw cC parallel to BS , meeting BC in C ; and at the end of the second part of the time, the body, by cor. 1, of the laws, will be found in C , in the same plane with the triangle ASB . Join SC ; and, because SB and cC are parallel, the triangle SBC will be equal to the triangle SCD , and therefore also to the triangle SAB . By the like argument, if the centripetal force acts successively in $C, D, E, \&c.$, and makes the body in each single particle of time to describe the right lines $CD, DE, EF, \&c.$, they will all lie in the same plane, and the triangle SCD will be equal to the triangle SBC , and SDE to SCD , and SEF to SDE . And, therefore, in equal times, equal areas are described in one immoveable plane; and, by composition, any sums $SADS, SAFS$, of those areas are, one to the other, as the times in which they are described. Now, let the number of those triangles be augmented, and their size diminished in infinitum; and then, by the preceding lemmas, their ultimate perimeter ADF will be a curve line: and therefore the centripetal force by which the body is perpetually drawn back from the tangent of this curve will act continually; and any described areas $SADS, SAFS$, which are always proportional to the times of description, will in this case also be proportional to those times. Q. E. D.

Cor. 1. The velocity of a body attracted towards an immovable centre, in spaces void of resistances, is reciprocally as the perpendicular let fall from that centre on the right line which touches the orbit. For the velocities in these

places A, B, C, D, E, are as the bases AB, BC, DE, EF, of equal triangles; and these bases are reciprocally as the perpendiculars let fall upon them.

Cor. 2. If the chords AB, BC, of two arcs successively described in equal times by the same body, in spaces void of resistance, are completed into a parallelogram ABCV, and the diagonal BV of this parallelogram, in the position which it ultimately acquires when those arcs are diminished in infinitum, is produced both ways, it will pass through the centre of force.

Cor. 3. If the chords AB, BC, and DE, EF, of arcs described in equal times, in spaces void of resistance, are completed into the parallelograms ABCV, DEFZ, the forces in B and E are one to the other in the ultimate ratio of the diagonals BV, EZ, when those arcs are diminished in infinitum. For the motions BC and EF of the body (by cor. 1 of the laws), are compounded of the motions Bc, BV, and Ef, EZ; but BV and EZ, which are equal to Cc and Ff, in the demonstration of this proposition, were generated by the impulses of the centripetal force in B and E, and are therefore proportional to those impulses.

Cor. 4. The forces by which bodies, in spaces void of resistance, are drawn back from rectilinear motions, and turned into curvilinear orbits, are one to another as the versed sines of arcs described in equal times; which versed sines tend to the centre of force, and bisect the chords when these arcs are diminished to infinity. For such versed sines are the halves of the diagonals mentioned in cor. 3.

Cor. 5. And therefore those forces are to the force of gravity as the said versed sines to the versed sines perpendicular to the horizon of those parabolic arcs which projectiles describe in the same time.

Cor. 6. And the same things do all hold good (by cor. 5 of the laws) when the planes in which the bodies are moved, together with the centres of force, which are placed in those planes, are not at rest, but move uniformly forward in right lines.

Theor. II. Every body that moves in any curve line described in a plane, and, by a radius drawn to a point either immoveable or moving forward with a uniform rectilinear motion, describes about that point areas proportional to the times, is urged by the centripetal force directed to that point.

Case I. For every body that moves in a curve line is (by law 1) turned aside from its rectilinear course by the action of some force that impels it; and that force by which the body is turned off from its rectilinear course, and made to describe in equal times the least equal triangles, SAB, SBC, SCD, &c., about the immoveable point S (by Prop. XL. E. 1, and law 2), acts in the place B according to the direction of a line parallel to C; that is, in the direction of the line BS; and in the place C according to the direction of a line parallel to dD, that is, in the direction of the line CS, &c.; and therefore acts always in the direction of lines tending to the immoveable point S. Q. E. D.

Case II. And (by cor. 5 of the laws) it is in-

different whether the superficies in which a body describes a curvilinear figure be quiescent, or move together with the body, the figure described, and its point S, uniformly forward in right lines.

Cor. 1. In non-resisting spaces of mediums, if the areas are not proportional to the times, the forces are not directed to the point in which the radii meet; but deviate therefrom in consequentia, or towards the parts to which the motion is directed, if the description of the areas is accelerated; but in antecedentia if retarded.

Cor. 2. And even in resisting mediums, if the description of the areas is accelerated, the directions of the forces deviate from the point in which the radii meet, towards the parts to which the motion tends.

Scholium. A body may be urged by a centripetal force compounded of several forces. In which case the meaning of the proposition is, that the force which results out of all tends to the point S. But if any force acts perpetually in the direction of lines perpendicular to the described surface, this force will make the body to deviate from the plane of its motion, but will neither augment nor diminish the quantity of the described surface; and is therefore not to be neglected in the composition of forces.

Theor. III. Every body that, by a radius drawn to the centre of another body, howsoever moved, describes areas about that centre proportional to the times, is urged by a force compounded of the centripetal forces tending to that other body, and of all the accelerative force by which the other body is impelled.—The demonstration of this is a natural consequence of the theorem immediately preceding.

Hence, if the one body L, by a radius drawn to the other body T, describes areas proportional to the times, and from the whole force by which the first body L is urged (whether that force is simple, or, according to cor. 2 of the laws, compounded of several forces) we subduct that whole accelerative force by which the other body is urged; the whole remaining force by which the first body is urged will tend to the other body T, as its centre. And, vice versâ, if the remaining force tends nearly to the other body T, those areas will be nearly proportional to the times.

If the body L, by a radius drawn to the other body T, describes areas which compared with the times are very unequal, and that other body T be either at rest or moves uniformly forward in a right line, the action of the centripetal force tending to that other body T is either none at all, or it is mixed and combined with very powerful actions of other forces: and the whole force compounded of them all, if they are many, is directed to another (immoveable or moveable) centre. The same thing obtains when the other body is actuated by any other motion whatever; provided that centripetal force is taken which remains after subducting that whole force acting upon that other body T.

Scholium. Because the equable description of areas indicate that a centre is respected by that force with which the body is most affected, and by which it is drawn back from its rectilinear motion, and retained in its orbit, we may always

be allowed to use the equable description of areas as an indication of a centre about which all circular motion is performed in free spaces.

Theor. IV. The centripetal forces of bodies, which by equable motions describe different circles, tend to the centres of the same circles; and are one to the other as the squares of the arcs described in equal times applied to the radii of circles.—For these forces tend to the centres of the circles (by theor. II. and cor. 2 theor. I.), and are to one another as the versed sines of the least arcs described in equal times (by cor. 4 theor. I.), that is, as the squares of the same arcs applied to the diameters of the circles by one of the lemmas: and therefore since those arcs are as arcs described in any equal times, and the diameters are as the radii, the forces will be as the squares of any arcs described in the same time, applied to the radii of the circles. Q. E. D.

Cor. 1. Therefore, since those arcs are as the velocities of the bodies, the centripetal forces are in a ratio compounded of the duplicate ratio of the velocities directly, and of the simple ratio of the radii inversely.

Cor. 2. And since the periodic times are in a ratio compounded of the ratio of the radii directly, and the ratio of the velocities inversely; the centripetal forces are in a ratio compounded of the ratio of the radii directly, and the duplicate ratio of the periodic times inversely.

Cor. 3. Whence, if the periodic times are equal, and the velocities therefore as the radii, the centripetal forces will be also as the radii; and the contrary.

Cor. 4. If the periodic times and the velocities are both in the subduplicate ratio of the radii, the centripetal forces will be equal among themselves; and the contrary.

Cor. 5. If the periodic times are as the radii, and therefore the velocities equal, the centripetal forces will be reciprocally as the radii; and the contrary.

Cor. 6. If the periodic times are in the sesquuplicate ratio of the radii, and therefore the velocities reciprocally in the subduplicate ratio of the radii, the centripetal forces will be in the duplicate ratio of the radii inverse; and the contrary.

Cor. 7. And universally, if the periodic time is as any power R^n of the radius R , and therefore the velocity reciprocally as the power R^{n-1} of the radius, the centripetal force will be reciprocally as the power R^{2n-2} of the radius; and the contrary.

Cor. 8. The same things all hold concerning the times, the velocities, and forces, by which bodies describe the similar parts of any similar figures, that have their centres in a similar position within those figures, as appears by applying the demonstrations of the preceding cases to those. And the application is easy, by only substituting the equable description of areas in the place of equable motion, and using the distances of the bodies from the centres instead of the radii.

Cor. 9. From the same demonstration it likewise follows, that the arc which a body, uniformly revolving in a circle by means of a given

centripetal force, describes in any time, is a mean proportional between the diameter of the circle and the space which the same body, falling by the same given force, would descend through in the same given time.

‘By means of the preceding proposition and its corollaries,’ says Sir Isaac, ‘we may discover the proportion of a centripetal force to any other known force, such as that of gravity. For, if a body by means of its gravity revolves in a circle concentric to the earth, this gravity is the centripetal force of that body. But, from the descent of heavy bodies, the time of one entire revolution, as well as the arc described in any given time, is given (by cor. 9 of this theorem). And by such propositions Mr. Huygens, in his excellent book *De Horologio Oscillatorio*, has compared the force of gravity with the centrifugal forces of revolving bodies.’

The preceding proposition may also be demonstrated in the following manner:—In any circle suppose a polygon to be inscribed of any number of sides. And if a body, moved with a given velocity along the sides of the polygon, is reflected from the circle at the several angular points; the force with which, at every reflection, it strikes the circle, will be as its velocity: and therefore the sum of the forces, in a given time, will be as that velocity and the number of reflections conjunctly; that is (if the species of the polygon be given), as the length described in that given time, and increased or diminished in the ratio of the same length to the radius of the circle; that is, as the square of that length applied to the radius; and therefore, if the polygon, by having its sides diminished in infinitum, coincides with the circle, as the square of the arc described in a given time applied to the radius. This is the centrifugal force, with which the body impels the circle; and to which the contrary force, wherewith the circle continually repels the body towards the centre, is equal.

On these principles hangs the whole of Sir Isaac Newton's mathematical philosophy. He now shows how to find the centre to which the forces impelling any body are directed, having the velocity of the body given: and finds the centrifugal force to be always as the versed sine of the nascent arc directly, and as the square of the time inversely; or directly as the square of the velocity, and inversely as the chord of the nascent arc. From these premises he deduces the method of finding the centripetal force directed to any given point when the body revolves in a circle; and this whether the central point is near or at an immense distance; so that all the lines drawn from it may be taken for parallels. The same thing he shows with regard to bodies revolving in spirals, ellipses, hyperbolas, or parabolas.—Having the figures of the orbits given, he shows also how to find the velocities and moving powers; and, in short, solves all the most difficult problems relating to the celestial bodies with an astonishing degree of mathematical skill. These problems and demonstrations are all contained in the first book of the *Principia*; to which we must refer those who wish for farther information.

SECT. VI.—RULES FOR PHILOSOPHICAL REASONING.

In his second book Sir Isaac Newton treats of the properties of fluids, and their powers of resistance; and lays down such principles as entirely overthrow the doctrine of Des Cartes's vortices, which was the fashionable system in his time. In the third book he begins particularly to treat of the natural phenomena, and apply them to the mathematical principles formerly demonstrated; and, as a necessary preliminary to this part, he lays down the following rules for reasoning in natural philosophy:—1. We are to admit no more causes of natural things than such as are both true and sufficient to explain their natural appearances. 2. Therefore to the same natural effects we must always assign, as far as possible, the same causes. 3. The qualities of bodies which admit neither intension nor remission of degrees, and which are found to belong to all bodies within the reach of our experiments, are to be esteemed the universal qualities of all bodies whatsoever. 4. In experimental philosophy, we are to look upon propositions collected by general induction from phenomena as accurately or very nearly true, notwithstanding any contrary hypotheses that may be imagined, till such time as other phenomena occur, by which they may either be made more accurate, or liable to exceptions.

The phenomena first considered are, 1. That the satellites of Jupiter, by radii drawn to the centre of their primary, describe areas proportional to the times of the description; and that their periodic times, the fixed stars being at rest, are in the sesquuplicate ratio of their distances from its centre. 2. The same thing is likewise observed of the phenomena of Saturn. 3. The five primary planets, Mercury, Venus, Mars, Jupiter, and Saturn, with their several orbits, encompass the sun. 4. The fixed stars being supposed at rest, the periodic times of the five primary planets, and of the earth about the sun, are in the sesquuplicate proportion of their mean distances from the sun. 5. The primary planets, by radii drawn to the earth, describe areas no ways proportionable to the times: but the areas which they describe by radii drawn to the sun are proportional to the times of description. 6. The moon, by a radius drawn to the centre of the earth, describes an area proportional to the time of description. All these phenomena are undeniable from astronomical observations, and are explained at large under the article ASTRONOMY. The mathematical demonstrations are next applied by Sir Isaac Newton in the following propositions:—

Prop. I. The forces by which the satellites of Jupiter are continually drawn off from rectilinear motions, and retained in their proper orbits, tend to the centre of that planet; and are reciprocally as the squares of the distances of those satellites from that centre. The former part of this proposition appears from theor. II. or III. and the latter from cor. 6, of theor. V., and the same thing we are to understand of the satellites of Saturn.

Prop. II. The forces by which the primary planets are continually drawn off from rectilinear

motions, and retained in their proper orbits, tend to the sun; and are reciprocally as the squares of the distances from the sun's centre. The former part of this proposition is manifest from phenomenon 5, just mentioned, and from theor. II.; the latter from the phenomenon 4, and cor. 6, of theor. IV. But this part of the proposition is with great accuracy deducible from the quiescence of the aphelion points. For a very small aberration from the reciprocal duplicate proportion would produce a motion of the apsides, sensible in every single revolution, and in many of them enormously great.

Prop. III. The force by which the moon is retained in its orbit tends towards the earth, and is reciprocally as the square of the distance of its place from the centre of the earth. The former part of this proposition is evident from phenomenon 5, and theor. II.; the latter from phenomenon 6, and theor. II. or III. It is also evident from the very slow motion of the moon's apogee; which, in every single revolution, amounting but to $3^{\circ} 3'$ in consequentia, may be neglected: and this more fully appears from the next proposition.

Prop. IV. The moon gravitates towards the earth, and by the force of gravity is continually drawn off from a rectilinear motion, and retained in its orbit.—The mean distance of the moon from the earth in the syzgies in semidiameters of the latter is about $60\frac{1}{2}$. Let us assume the mean distance of 60 semidiameters in the syzgies; and suppose one revolution of the moon in respect of the fixed stars to be completed in 27 d. 7 h. 43 m., as astronomers have determined; and the circumference of the earth to amount to 123,249,600 Paris feet. Now, if we imagine the moon, deprived of all her motion, to be let go, so as to descend towards the earth with the impulse of all that force by which it is retained in its orbit, it will, in the space of one minute of time, describe in its fall $15\frac{1}{2}$ Paris feet. For the versed sine of that arc which the moon, in the space of one minute of time, describes by its mean motion at the distance of 60 semidiameters of the earth, is nearly $15\frac{1}{12}$ Paris feet; or, more accurately, 15 feet 1 inch and 1 line $\frac{1}{2}$. Wherefore, since that force, in approaching to the earth, increases in the reciprocal duplicate proportion of the distance; and, upon that account, at the surface of the earth is 60×60 times greater than at the moon; a body in our regions, falling with that force, ought, in the space of one minute of time, to describe $60 \times 60 \times 15\frac{1}{12}$ Paris feet; and, in the space of one second of time, to describe $15\frac{1}{12}$ of those feet; or, more accurately, 15 feet 1 inch 1 line $\frac{1}{2}$. And with this very force we actually find that bodies here on earth do really descend.—For a pendulum oscillating seconds in the latitude of Paris, will be 3 Paris feet and $8\frac{1}{2}$ lines in length, as Mr. Huygens has observed. And the space which a heavy body describes, by falling one second of time, is to half the length of the pendulum in the duplicate ratio of the circumference of the circle to its diameter; and is therefore 15 Paris feet 1 inch 1 line $\frac{1}{2}$. And therefore the force by which the moon is retained in its orbit, becomes, at the very surface of the earth, equal to the force of

gravity which we observe in heavy bodies there. And therefore (by rules 1 and 2) the force by which the moon is retained in its orbit is that very same force which we commonly call gravity. For, were gravity another force different from that, then bodies descending to the earth with the joint impulse of both forces would fall with a double velocity, and, in the space of one second of time, would describe 30½ Paris feet; altogether against experience.

The demonstration of this proposition may be more diffusely explained after the following manner:—Suppose several moons to revolve about the earth, as in the system of Jupiter or Saturn, the periodic times of those moons would (by the argument of induction) observe the same law which Kepler found to obtain among the planets; and therefore their centripetal forces would be reciprocally as the squares of the distances from the centre of the earth, by prop. 1. Now, if the lowest of these were very small, and were so near the earth as almost to touch the tops of the highest mountains, the centripetal force thereof, retaining it in its orbit, would be very nearly equal to the weights of any terrestrial bodies that should be found upon the tops of these mountains; as may be known from the foregoing calculation. Therefore, if the same little moon should be deserted by its centrifugal force that carries it through its orbit, it would descend to the earth; and that with the same velocity as heavy bodies do actually descend with upon the tops of those very mountains, because of the equality of forces that obliges them both to descend. And if the force by which that lowest moon would descend were different from that of gravity, and if that moon were to gravitate towards the earth, as we find terrestrial bodies do on the tops of mountains, it would then descend with twice the velocity, as being impelled by both these forces conspiring together. Therefore, since both these forces, that is, the gravity of heavy bodies, and the centripetal forces of the moons, respect the centre of the earth, and are similar and equal between themselves, they will (by rules 1 and 2) have the same cause. And therefore the force which retains the moon in its orbit is that very force which we commonly call gravity; because, otherwise, this little moon at the top of a mountain must either be without gravity, or fall twice as swiftly as heavy bodies use to do.

Having thus demonstrated that the moon is retained in its orbit by its gravitation towards the earth, it is easy to apply the same demonstration to the motions of the other secondary planets, and of the primary planets round the sun, and thus to show that gravitation prevails throughout the whole creation. After which Sir Isaac proceeds to show from the same principles, that the heavenly bodies gravitate towards each other, and contain different quantities of matter, or have different densities in proportion to their bulks.

Prop. V. All bodies gravitate towards every planet; and the weight of bodies towards the same planet, at equal distances from its centre, are proportional to the quantities of matter they contain.

It has been confirmed by many experiments,

that all sorts of heavy bodies (allowance being made for the inequality of retardation by some small resistance of the air) descend to the earth from equal heights in equal times; and that equality of times we may distinguish to a great accuracy by the help of pendulums. Sir Isaac Newton tried the thing in gold, silver, lead, glass, sand, common salt, wood, water, and wheat. He provided two wooden boxes, round and equal, filled the one with wood, and suspended an equal weight of gold in the centre of oscillation of the other. The boxes hanging by equal threads of eleven feet, made a couple of pendulums, perfectly equal in weight and figure, and equally receiving the resistance of the air. And, placing the one by the other, he observed them to play together forwards and backwards, for a long time, with equal vibrations. And therefore the quantity of matter in the gold was to the quantity of matter in the wood, as the action of the motive force (or vis motrix) upon all the gold to the action of the same upon all the wood; that is, as the weight of the one to the weight of the other. And the like happened in the other bodies.

By these experiments, in bodies of the same weight, he could manifestly have discovered a difference of matter less than the thousandth part of the whole, had any such been. But, without all doubt, the nature of gravity towards the planets, is the same as towards the earth. For, should we imagine our terrestrial bodies removed to the orb of the moon, and there, together with the moon, deprived of all motion, to be let go, so as to fall together towards the earth; it is certain, from what we have demonstrated before, that, in equal times, they would describe equal spaces with the moon, and of consequence are to the moon, in quantity of matter, as their weights to its weight. Since the satellites of Jupiter perform their revolutions in times which observe the sesquuplicate proportion of their distances from Jupiter's centre, their accelerative gravities towards Jupiter will be reciprocally as the squares of their distances from Jupiter's centre; that is, equal at equal distances. And therefore, these satellites, if supposed to fall towards Jupiter from equal heights, would describe equal spaces in equal times, in like manner as heavy bodies do on our earth. And by the same argument, if the circumsolar planets were supposed to be let fall at equal distances from the sun, they would, in their descent towards the sun, describe equal spaces in equal times. But forces, which equally accelerate unequal bodies, must be as those bodies: that is to say, the weights of the planets towards the sun must be as their quantities of matter.

Further, that the weights of Jupiter and of his satellites towards the sun are proportional to the several quantities of their matter, appears from the exceedingly regular motions of the satellites. For, if some of those bodies were more strongly attracted to the sun in proportion to their quantity of matter than others, the motions of the satellites would be disturbed by that inequality of attraction. If at equal distances from the sun, any satellite, in proportion to the quantity of its matter, did gravitate towards the sun with a force greater than Jupiter in proportion to his

according to any given proportion, suppose of d to e ; then the distance between the centres of the sun and the satellite's orbit would be always greater than the distance between the centres of the sun and of Jupiter nearly in the subduplicate of that proportion. And, if the satellite gravitated towards the sun with a force less in the proportion of e to d , the distance of the centre of the satellite's orb from the sun would be less than the distance of the centre of Jupiter's from the sun in the subduplicate of the same proportion. Therefore, if at equal distances from the sun the accelerative gravity of any satellite towards the sun were greater or less than the accelerating gravity of Jupiter towards the sun but by $\frac{1}{1000}$ part of the whole gravity, the distance of the centre of the satellite's orbit from the sun would be greater or less than the distance of Jupiter from the sun by $\frac{1}{2000}$ th part of the whole distance; that is, by a fifth part of the distance of the utmost satellite from the centre of Jupiter; an eccentricity of the orbit which would be very sensible. But the orbits of the satellites are concentric to Jupiter; therefore the accelerative gravities of Jupiter, and of all satellites, towards the sun, are equal among themselves. And, by the same argument, the weight of Saturn and of his satellites towards the sun, at equal distances from the sun, are as their several quantities of matter; and the weights of the moon and of the earth towards the sun are either none, or accurately proportional to the masses of matter which they contain. But further, the weights of all the parts of every planet towards any other planet are one to another as the matter in the several parts. For if some parts gravitated more, others less, than in proportion to the quantity of their matter; then the whole planet, according to the sort of parts with which it most abounds, would gravitate more or less than in proportion to the quantity of matter in the whole. Nor is it of any moment whether these parts are external or internal. For if, as an instance, we should imagine the terrestrial bodies with us to be raised up to the orb of the moon, to be there compared with its body; if the weights of such bodies were to the weights of the external parts of the moon as the quantities of matter in the one and in the other respectively, but to the weights of the internal parts in a greater or less proportion; then likewise the weights of those bodies would be to the weight of the whole moon in a greater or less proportion; against what we have showed above.

Cor. 1. Hence the weights of bodies do not depend upon their forms and textures. For, if the weights could be altered with the forms, they would be greater or less, according to the variety of forms in equal matter; altogether against experience.

Cor. 2. Universally all bodies about the earth gravitate towards the earth; and the weights of all, at equal distances from the earth's centre, are as the quantities of matter which they severally contain. This is the quality of all bodies within the reach of our experiments; and, therefore (by rule 3), to be affirmed of all bodies whatsoever. If ether, or any other body, were either altogether void of gravity, or were to gravitate less in proportion to its quantity of matter; then, because

(according to Aristotle, Des Cartes, and others) there is no difference betwixt that and other bodies, but in mere form of matter, by a successive change from form to form, it might be changed at last into a body of the same condition with those which gravitate most in proportion to their quantity of matter; and, on the other hand, the heaviest bodies, acquiring the first form of that body, might by degrees quite lose their gravity. And therefore the weights would depend upon the forms of bodies, and with those forms might be changed, contrary to what was proved in the preceding corollary.

Cor. 3. All spaces are not equally full. For, if all spaces were equally full, then the specific gravity of the fluid which fills the region of the air, on account of the extreme density of the matter, would fall nothing short of the specific gravity of quick-silver or gold, or any other the most dense body; and, therefore, neither gold, nor any other body, could descend in air. For bodies do not descend in fluids, unless they are specifically heavier than the fluids. And, if the quantity of matter in a given space can by any rarefaction be diminished, what should hinder a diminution to infinity?

Cor. 4. If all the solid particles of all bodies are of the same density, nor can be rarefied without pores, a void space or vacuum must be granted. (By bodies of the same density, our author means those whose vires inertiae are in the proportion of their bulks.)

Prop. VI. That there is a power of gravity tending to all bodies, proportional to the several quantities of matter which they contain. That all the planets mutually gravitate one towards another, we have prove^d before; as well as that the force of gravity towards every one of them, considered apart, is reciprocally as the square of the distance of places from the centre of the planet. And thence it follows that the gravity tending towards all the planets is proportional to the matter which they contain. Moreover, since all the parts of any planet A gravitate towards any other planet B, and the gravity of every part is to the gravity of the whole as the matter of the part to the matter of the whole; and (by law 3) to every action corresponds an equal re-action: therefore the planet B will, on the other hand, gravitate towards all the parts of the planet A; and its gravity towards any one part will be to the gravity towards the whole as the matter of the part to the matter of the whole. Q. E. D.

Cor. 1. Therefore the force of gravity towards any whole planet arises from, and is compounded of, the forces of gravity towards all its parts. Magnetic and electric attractions afford us examples of this. For all attractions towards the whole arise from the attractions towards the several parts. The thing may be easily understood in gravity, if we consider a greater planet as formed of a number of lesser planets, meeting together in one globe. For hence it would appear that the force of the whole must arise from the forces of the component parts. If it be objected that, according to this law, all bodies with us must mutually gravitate one towards another, whereas no such gravitation any where appears; it is answered that, since the gravitation towards these

bodies is to the gravitation towards the whole earth as these bodies are to the whole earth, the gravitation towards them must be far less than to fall under the observation of our senses. (The experiments with regard to the attraction of mountains, however, have now further elucidated this point.)

Cor. 2. The force of gravity towards the several equal particles of any body is reciprocally as the square of the distance of places from the particles.

Prop. VII. In two spheres mutually gravitating each towards the other, if the matter, in places on all sides round about and equidistant from the centres, is similar, the weight of either sphere towards the other will be reciprocally as the square of the distance between their centres. For the demonstration of this, see the Principia, book i. prop. 75 and 76.

Cor. 1. Hence we may find and compare together the weights of bodies towards different planets. For the weights of bodies revolving in circles about planets are as the diameters of the circles directly, and the squares of their periodic times reciprocally; and their weights at the surfaces of the planets, or at any other distances from their centres, are (by this prop.) greater or less, in the reciprocal duplicate proportion of the distances. Thus, from the periodic times of Venus, revolving about the sun in 224 d. 16 $\frac{3}{4}$ h.; of the utmost circumjovial satellite revolving about Jupiter in 16 d. 16 $\frac{2}{3}$ h.; of the Huygenian satellite about Saturn in 15 d. 22 $\frac{2}{3}$ h.; and of the moon about the earth in 27 d. 7 h. 43 m.; compared with the mean distance of Venus from the sun, and with the greatest heliocentric elongations of the utmost circumjovial satellite from Jupiter's centre, 8' 16"; of the Huygenian satellite from the centre of Saturn 5' 4"; and of the moon from the earth, 10' 33": by computation our author found that the weight of equal bodies at equal distances from the centres of the sun, of Jupiter, of Saturn, and of the earth, towards the sun, Jupiter, Saturn, and the earth, were one to another as $\frac{1}{1687}$, $\frac{1}{3021}$, and $\frac{1}{169252}$ respectively. Then, because as the distances are increased or diminished the weights are diminished or increased in a duplicate ratio; the weights of equal bodies towards the sun, Jupiter, Saturn, and the earth, at the distances 10,000, 997, 791, and 109, from their centres, that is, at their very superficies, will be as 10,000, 943, 529, and 435, respectively.

Cor. 2. Hence likewise we discover the quantity of matter in the several planets. For their quantities of matter are as the forces of gravity at equal distances from their centres, that is, in the sun, Jupiter, Saturn, and the earth, as 1, $\frac{1}{1687}$, $\frac{1}{3021}$, and $\frac{1}{169252}$ respectively. If the parallax of the sun be taken greater or less than 10' 30", the quantity of matter in the earth must be augmented or diminished in the triplicate of that proportion.

Cor. 3. Hence also we find the densities of the planets. For (by prop. LXXII., book i.) the weights of equal and similar bodies towards dissimilar spheres, are, at the surfaces of those spheres as the diameters of the spheres. And

therefore the densities of dissimilar spheres are as those weights applied to the diameters of the spheres. But the true diameters of the sun, Jupiter, Saturn, and the earth, were one to another as 10,000, 997, 791, and 109; and the weights towards the same, as 10,000, 943, 529, and 435, respectively; and therefore their densities are as 100, 94 $\frac{1}{2}$, 67, and 400. The density of the earth, which comes out by this computation, does not depend upon the parallax of the sun, but is determined by the parallax of the moon, and therefore is here truly defined. The sun, therefore, is a little denser than Jupiter, and Jupiter than Saturn, and the earth four times denser than the sun; for the sun, by its great heat, is kept in a sort of a rarefied state. The moon also is denser than the earth.

Cor. 4. The smaller the planets are, cæteris paribus, of so much the greater density. For so the powers of gravity on their several surfaces come nearer to equality. They are, likewise, cæteris paribus, of the greater density as they are nearer to the sun. So Jupiter is more dense than Saturn, and the earth than Jupiter. For the planets were to be placed at different distances from the sun, that, according to their degrees of density, they might enjoy a greater or less proportion of the sun's heat. Our water, if it were removed as far as the orb of Saturn, would be converted into ice; and in the orb of Mercury, would quickly fly away in vapor. For the light of the sun, to which its heat is proportional, is seven times denser in the orb of Mercury than with us; and by the thermometer Sir Isaac found that a seven-fold heat of our summer sun will make water boil. Nor are we to doubt that the matter of Mercury is adapted to its heat, and is therefore more dense than the matter of our earth; since, in a denser matter, the operations of nature require a stronger heat.

It is shown in the scholium of prop. XXII. book ii. of the Principia, that, at the height of 200 miles above the earth, the air is more rare than it is at the superficies of the earth, in the ratio of 30 to 0.0000000000003098, or as 7500000000000 to 1 nearly. And hence the planet Jupiter, revolving in a medium of the same density with that superior air, would not lose by the resistances of the medium the 1,000,000th part of its motion in 1,000,000 years. In the spaces near the earth the resistance is produced only by the air, exhalations, and vapors. When these are carefully exhausted by the air-pump from under the receiver, heavy bodies fall within the receiver with perfect freedom, and without the least sensible resistance; gold itself, and the lightest down, let fall together, will descend with equal velocity; and though they fall through a space of four, six, and eight feet, they will come to the bottom at the same time; as appears from experiments that have often been made. And therefore, the celestial regions being perfectly void of air and exhalations, the planets and comets, meeting no sensible resistance in those spaces, will continue their motions through them for an immense space of time.

NEW YEAR'S GIFTS. NENIUS Marcellus refers the origin of new year's gifts among the Romans to Titus Tatius, king of the Sabines, who reigned at Rome conjointly with Romulus, and who having considered as a good omen a present of some branches cut in a wood consecrated to Strenia, the goddess of strength, which he received on the first day of the new year, authorised this custom afterwards, and gave to these presents the name of *strenæ*. The Romans on that day celebrated a festival in honor of Janus, and sent presents to one another of figs, dates, honey, &c., to show their friends that they wished them a happy and agreeable life. Clients, or those who were under the protection of the great, carried presents of this kind to their patrons, adding to them a small piece of silver. Under Augustus, the senate, the knights, and the people, presented such gifts to him, and in his absence deposited them in the capitol. Of the succeeding princes some adopted this custom and others abolished it; but it always continued among the people. The early Christians condemned it, because it appeared to be a relique of Paganism, and a species of superstition; but, when it became nothing more than a mark of esteem, the church ceased to disapprove of it.

NEXI, in Roman antiquity, persons free-born, who for debt were reduced to a state of slavery. By the laws of the XII. tables it was ordained, that insolvent debtors should be given up to their creditors to be bound in fetters and cords, whence they were called *Nexi*; and, though they did not entirely lose the rights of freemen, yet they were often treated more harshly than the slaves themselves.

NEXT, *adj. & adv.* Sax. *next*, *neþrt*; the superlatives of *neþ* or *nyþ*, Goth. and Dan. *næst*; Teut. *nechst*. Nighest or nearest, in time, place, or degree; at the time or term immediately preceding.

Want supplieth itself of what is *next*, and many times the *next* way. *Bacon.*

If the king himself had staid at London, or, which had been the *next* best, kept his court at York, and sent the army on their proper errand, his enemies had been speedily subdued. *Clarendon.*

The queen already sat
High on a golden bed; her princely guest
Was *next* her side, in order sat the rest.

Dryden.

O fortunate young man! at least your lays,
Are *next* to his, and claim the second praise. *Id.*

Finite and infinite, being by the mind looked on as modifications of expansion and duration, the *next* thing to be considered is, how the mind comes by them. *Locke.*

That's a difficulty *next* to impossible. *Rowe.*

The unwary nymph

Desired of Jove, when next he sought her bed,
To grant a certain gift. *Addison's Ovid.*

The good man warned us from his text
That none could tell whose turn should be the *next*. *Gay.*

There, blest with health, with business unperplexed,

This life we relish, and ensure the *next*. *Young.*

NEY, MARSHAL, a celebrated general and peer of France, under the Imperial government. He

was born at Sarre Louis in 1769, and entered as a private into a regiment of hussars. At the beginning of the revolution he was made a captain, and served with distinction at Nerwinde and Valenciennes. His address and bravery first attracted the notice of Kleber, under whom he became an adjutant-general. He was next made general of a division, and commanded the French cavalry during the invasion of Switzerland in 1798, when he is said to have behaved with considerable humanity to the unfortunate inhabitants of that country. The following year he distinguished himself under Massena; and shared, in 1800, in the victories of Moreau at Moeskirch and Hohenlinden. In 1804 he received the bâton of marshal; and the following year gained the battle to which he owed the title of duke of Elchingen. He was next employed against the Prussians and Russians, in Friedland, and the British in the peninsula, where he showed skill in retreating before our distinguished Commander from Portugal. In 1812 he was present in Russia at the terrible battle of Mojaïsk, where he commanded the centre of the French army, and obtained the further title of prince of Moskwa. Having afterwards lost the battle of Dennewitz, in Germany, he retired to Paris in disgrace; but was soon again employed. He had justly earned the character of a brave leader, whatever were his principles, and afterwards contributed to induce the emperor to resign, and to retire to Elba. He was one of the first of the imperial generals who submitted to the Bourbons, and thus preserved his titles and pensions. In 1815, when Buonaparte escaped from Elba, Ney was at his estate in the country, and received orders to repair to his government of Besançon. He went to Paris, making strong protestations of loyalty to the king, and promised it is said to bring back the disturber of Europe in an iron cage. He then proceeded towards Lyons; but instead of attacking the invader he joined his standard. His subsequent career was as unfortunate as this conduct was unprincipled. He followed his old master to Waterloo, and being afterwards arrested was tried by a commission as a traitor to Louis XVIII., and shot.

NIAGARA, a river of North America, issuing from the north-east end of lake Erie, and flowing into lake Ontario. It forms the boundary between the United States and Upper Canada, and its course, which is nearly north, is thirty-six miles in length, and varies in breadth from half a mile to a league. For the first few miles from lake Erie its breadth is 300 yards, and it is deep enough for vessels drawing nine or ten feet water; but the current is extremely irregular and rapid, and the channel so intricate and rocky that it is only navigable for boats. In proceeding downwards the river widens, the rocks disappear, and the waters glide smoothly along as far as fort Chippeway, which is about three miles above the falls. Here the bed of the river again becomes rocky, and the waters are violently agitated by those successive rapids which compel all boats to stop at Chippeway; indeed, were any boat by chance to be carried but a little way further, nothing could save it from being dashed

so pieces long before it came to the celebrated falls of this name. These we have already described in our article AMERICA, NORTH. See Index. We need only say here that with such impetuosity do the waves break on the rocks, in these rapids, that the sight of them from the top of the banks makes the spectator shudder. In the middle of the river the stream is less troubled, and boats may pass down, if dexterously managed, to the island which divides the river at the falls; but it runs here with uncommon rapidity: the least error from the true course either to the right or the left, therefore, must result in inevitable destruction. The noise of the falls is heard, in a clear day and fair wind, at the distance of forty miles, and the cloud of vapor is said to be observable seventy miles. Five miles from the great falls is another scarcely less tremendous, called the Whirlpool; it is occasioned by the stream, as it passes from the cataract, sweeping with impetuous violence round a natural basin enclosed between some rocky promontories, where it forms a vortex of inevitable destruction to whatever comes within its attraction; but thus diverging from its onward direction, and being as it were for a time embayed, the velocity of the current is subdued to a more tranquil course. 'The astonishment,' observes Mr. Weld, 'excited in the mind of the spectator by the vastness of the different objects which he contemplates from hence [i. e. at the Great Fall] is great indeed; and few persons, on coming here for the first time, can for some minutes collect themselves sufficiently to be able to form any tolerable conception of the stupendous scene before them. It is impossible for the eye to embrace the whole of it at once; it must gradually make itself acquainted, in the first place, with the component parts of the scene, each one of which is in itself an object of wonder; and such a length of time does this operation require, that many of those who have had an opportunity of contemplating the scene at their leisure, for years together, have thought that every time they have beheld it, each part has appeared more wonderful and more sublime, and that it has only been at the time of their last visit that they have been able to discover all the grandeur of the cataract.' Mr. Heriot says, 'the lofty banks and immense woods which environ this wonderful scene, the irresistible force, the rapidity of motion displayed by the rolling clouds of foam, the uncommon brilliancy and variety of colors and of shades, the ceaseless intumescence and swift agitation of the dashing waves below, the solemn and tremendous noise, with volumes of vapor darting upwards into the air, which the simultaneous report and smoke of 1000 cannon could scarcely equal, irresistibly tend to impress the imagination with such a train of sublime sensations as few other combinations of natural objects are capable of producing.'

NIAGARA, a county of New York, United States, about fifty-three miles in length, and thirty-one in its greatest breadth, and including an area of 899,200 acres. It is bounded north by lake Ontario, east by Genesee county, south by Cataragus, and west by lake Erie and Niagara River. Chief town Buffalo.

NIAS, *n. s.* Fr. *niais*. Simple, silly, foolish.

A *nias* hawk is one taken newly from the nest, and not able to help itself; and hence nisey, a silly person. *Bailey*.

NIAS, or NEAS ISLE, an island lying off Tapanooly Bay, on the west coast of Sumatra, from which it is separated by a strait sixty miles wide. This island may be estimated at fifty miles in length by twenty in average breadth, and is divided into about fifty small districts, under independent chiefs or rajahs, who are at perpetual variance. Their prisoners they sell for slaves, as well as all others not immediately connected with them, whom they can seize: a plan encouraged by the resort of native traders from Padang, Natal, and Achin, to purchase cargoes of slaves. Even in this small island 450 of these unhappy men are said to be annually kidnapped or taken. See SUMATRA.

NIB, *v. s.*

NIBBED', *adj.*

NIB'BLE, *v. a. & v. n.*

NIB'BLER, *n. s.*

Sax. *neb* (the face); Belgic *nebbe*; Danish *neb*. The point or beak of a bird's face; hence any sharp or taper point, as of a pen: nibbed is having such a point: to nibble, to peck or bite at; to eat or cut away slowly; to carp at.

Thy turfy mountains, where live nibbling sheep,
And flat meads thatched with stover them to keep. *Shakspeare.*

As pigeons bill, so wedlock would be nibbling. *Id.*

It is the rose that bleeds, when he
Nibbles his nice phlebotomy. *Cleaveland.*

Instead of returning a full answer to my book, he manifestly falls a nibbling at one single passage in it. *Tillotson.*

They gape at rich revenues which you hold,
And fain would nibble at your grandame gold. *Dryden.*

If you would be nibbling, here is a hand to stay
your stomach. *Id. Don Sebastian.*

Had not he better have borne Wat's nibbling of his
plants and roots now, than the huntsman's eating of
him out of house and home. *L'Etrange.*

This fish plunging himself in mud, and then lifting
up his head a little, casts out the string; which
the little fishes taking for a worm, and nibbling at it,
he immediately plucks them both in together. *Grew's Museum.*

The roving trout

Greedily sucks in the twining bait,
And tugs and nibbles the fallacious meat. *Gay.*
A tree called the bejuco, which twines about other
trees, with its end hanging downwards, travellers
cut the nib off it, and presently a spout of water runs
out from it as clear as crystal. *Derham.*

Many there are who nibble without leave;
But none, who are not born to taste, survive. *Granville.*

Sheep grazed the field; some with soft bosom
pressed

The herb as soft, while nibbling strayed the rest;
Nor noise was heard but of the hasty brook,
Struggling, detained in many a petty nook. *Couper.*

No solemn, antique gentleman of rhyme,
Who having angled all his life for fame,

And getting but a nibble at a time,
Still fussily keeps fishing on. *Byron.*

NICÆA, in ancient geography, the metropolis
of Bithynia; situated on the lake Ascanius, in a
large and fertile plain; in compass sixteen stadia;
first built by Antigonus, the son of Philip,

and thence called Antigonea; afterwards completed by Lysimachus, who called it Nicæa, after his consort the daughter of Antipater. According to Stephanus, it was originally a colony of the Bottiæ, a people of Thrace, and called Ancore; and afterwards called Nicæa, and Nice, in Asia Minor; famous for the first general council.

NICÆA, is also the name of other five ancient towns: viz. 1. In Corsica.—Diodorus Siculus. 2. In the Illyrian India—Arrian; situated on the west side of the Hydaspes, opposite to Bucephale, on the east side. 3. A town of Liguria, at the Maritime Alps, on the east side of the Paulon near its mouth which runs between the Varus and Nicæa.—Mela. 4. A colony of the Massilians—Stephanus; the last town of Italy to the west; now Nice on the Mediterranean. 5. In Locris—Strabo, near Thermopylæ; one of the keys of that pass. It stood on the Sinus Maliacus.

NICAISE (Claude), a celebrated antiquary in the seventeenth century, descended from a respectable family at Dijon, where his brother was proctor-general of the chamber of accounts. He became an ecclesiastic, and was made a canon in the holy chapel at Dijon; but devoted himself to the study of antique monuments. In 1656 he resigned his canonry, and went to Rome, where he resided many years; and, after his return to France, he held a correspondence with almost all the learned men of Europe. This took up a great part of his time, and hindered him from enriching the public with any large works. He published a Latin dissertation *De Nummo Pantheo*; An Explanation of an Antique Monument found at Guienne, in the diocese of Aach; and A Discourse upon the form and figure of the Syrens, in which, following the opinion of Huet, bishop of Avranches, he undertook to prove that they were in reality birds, and not fishes or sea-monsters. He translated into French, from the Italian, a piece of Bellori, containing a description of the pictures in the Vatican, to which he added a Dissertation upon the Schools of Athens and Parnassus, two of Raphael's pictures. He wrote also a small tract upon the ancient music; but while he was laboring to explain that antique inscription, *Minervæ Arpatiæ*, which was found in the village of Velley, he died there in October, 1701, aged seventy-eight.

NICANDER, a native of Colophon, a celebrated grammarian, poet, and physician, who lived about the 160th Olympiad A. C. 140, in the reign of Attalus king of Pergamus, who overcame the Gallo-Greeks. He lived many years in Ætolia, of which country he wrote a history. He wrote also many other works, of which only two are extant, viz. 1. *Theriaca*, describing in verse the many accidents attending wounds made by venomous beasts, with the proper remedies. 2. *Alexipharmaca*, wherein he treats poetically of poisons and their antidotes.

NICANDRA, in botany, a genus of the monogynia order and decandria class of plants; natural order thirtieth, contortæ: CAL. monoplyllous and quadripartite: COR. monopetalous, tubulated, and parted into ten lacinia; the fruit

is an oval berry, which is grooved longitudinally, and contains many small angular seeds. There is only one species,

N. amara, a native of Guiana. The leaves and stalks are bitter, and used by the natives as an emetic and purge.

NICARAGUA, a woody province of the former kingdom of Guatimala, in Spanish America, bounded on the north by Honduras, on the east by the Carribbean Sea, on the west by Guatimala and the Pacific, and on the south by Costa Rica. It is about fifty miles square from east to west, and from north to south. The summers, though hot, are not unhealthy; and the winter has abundance of rain and storms. It is but occasionally diversified with meadows, but they are extremely fertile, and sustain large breeds of cattle, swine, goats, mules and horses. The other products are flax, hemp, long pepper, balsams, cotton, sugar, and turpentine. It also abounds in deer, birds, animals of the chase, and noxious insects. Here are likewise several silver mines, and the sands of the rivers furnish gold, in working which the natives excel. The capital is of the same name and contains about 1200 houses, with many convents, and four churches. It is the see of a bishop. Its port, Realexo, on the river Realexo. Long. 85° 4' W., lat. 11° 16' N.

NICARAGUA, a lake of fresh water in the foregoing province, 120 miles in length, and forty-one in breadth. It has several islands, is navigable for large vessels, and of immense depth. It enters the sea by the east, through the river San Juan, which is sixty-four miles long, and on which a considerable trade is carried. The passage is guarded by the castle of Conception.

NICAUSIS, a name given by some authors to the queen of Sheba, or Saba, or Ethiopia, who visited Solomon; called Balkis by others, and Makeda by Mr. Bruce; who gives a long history of her descendants from David I. her son, by Solomon, to the time when he visited Abyssinia, where the reigning princes still boast their descent from her. See ETHIOPIA. Josephus says she reigned over Egypt and Ethiopia; but Mr. Bruce restricts her dominion to Saba.

NICE, *adj. & adv.* } Saxon *nege*; Belgic
NICE'LY, *adv.* } *nese*; Dan. *naje*. Soft;
NICE'NESS, *n. s.* } tender; delicate; and
NICE'TY. } hence accurate; cautious;
fastidious; squeamish; requiring exactness: 'to make nice' is used by Shakspeare for to be scrupulous: nicely and niceness follow these senses: nicety is also used for minute accuracy; fastidious or squeamish delicacy; minute observance or discrimination; a delicate viand.

Such a man was Argalus, as hardly the *nicest* eye can find a spot in.

A strange *niceness* were it in me to refrain that from the ears of a person representing so much worthiness, which I am glad even to rocks and woods to utter.

Id.

He them with speeches meet
Does fair intreat; no courting nicety,
But simple true, and eke unfeigned sweet.

Spenaer.

The letter was not *nice*, but full of charge
Of dear import. *Shakspeare. Romeo and Juliet*

When my hours
Were *nice* and lucky, men did ransom lives
Of me for jests. *Id. Antony and Cleopatra.*

He that stands upon a slippery place,
Makes *nice* of no vile hold to stay him up.
Shakspeare.

Knaves in this plainness
Harbour more craft, and more corrupter ends,
Than twenty silky ducking observants
That stretch their duties *nice*ly. *Id. King Lear.*

Only some little boats, from Gaul that did her
feed
With trifles, which she took for *niceness* more than
need. *Drayton.*

Dear love! continue *nice* and chaste;
For if you yield you do me wrong;
Let duller wits to love's end haste,
I have enough to woo thee long. *Donne.*

What mean those ladies which, as tho'
They were to take a clock to pieces, go
So *nice*ly about the bride? *Id.*

A *nice* and subtle happiness I see
Thou to thyself proposhest, in the choice
Of thy associates, Adam; and wilt taste
No pleasure, though in pleasure solitary. *Milton.*

With how much ease is a young muse betrayed!
How *nice* the reputation of the maid! *Roscommon.*

Nor be so *nice* in taste myself to know,
If what I swallow be a thrush or no. *Dryden.*

Unlike the *niceness* of our modern dames,
Affected nymphs with new affected names. *Id.*
Nor place them where

Roast crabs offend the *niceness* of their nose. *Id.*

Supposing an injury done, it is a *nice* point to pro-
portion the reparation to the degree of the indignity. *L'Estrange.*

He ought to study the grammar of his own tongue,
that he may understand his own country-speech
*nice*ly, and speak it properly. *Locke.*

If reputation attend these conquests, which de-
pend on the fineness and *niceties* of words, it is no
wonder if the wit of men so employed should
perplex and subtilise the signification of sounds. *Id.*

Indulge me but in love, my other passions
Shall rise and fall by virtue's *nice*st rules. *Addison.*

As for the workmanship of the old Roman pillars,
the ancients have not kept to the *nicety* of proportion
and the rules of art so much as the moderns. *Id. on Italy.*

Nor was this *nicety* of his judgment confined only
to literature, but was the same in all other parts of
art. *Prior.*

My progress in making this *nice* and trouble-
some experiment, I have set down more at large. *Newton.*

His conclusions are not built upon any *niceties*, or
solitary and uncommon appearances, but on the most
simple and obvious circumstances of these terrestrial
bodies. *Woodward.*

The inconveniences attending the best of govern-
ments, we quickly feel, and are *nice*ly sensible of the
share we bear in them. *Atterbury.*

The next thing of which the doses ought to be
*nice*ly determined, are opiates. *Arbutnot on Coins.*

Thus criticks, of less judgment than caprice,
Curious, not knowing, not exact, but *nice*,
Form short ideas, and offend in arts,
As most in manners, by a love to parts. *Pope.*

At *nice*ly carving show thy wit;
But ne'er presume to eat a bit.
Swift's Miscellanies.

Love such a *nicety* requires,
One blast will put out all his fires. *Id. Poems.*

She is so *nice* and critical in her judgment, so sen-
sible of the smallest error, that the maid is often
forced to undress her daughters three or four times a
day. *Law.*

Having been compiled by Gratian, in an ignorant
age, we ought not to be too *nice* in examining it. *Baker.*

Of honor men at first, like women *nice*,
Raise maiden scruples at unpractised vice. *E. Halifax.*

After long drought, when rains abundant fall,
He hears the herbs and flowers rejoicing all:
Knows what the freshness of their hue implies,
How glad they catch the largess of the skies;
But, with precision *nicer* still, the mind
He scans of every locomotive kind. *Couper.*

NICE, an ancient town of Asia, in Natolia,
now called Isnik, with a Greek archbishop's
see. It is famous for the general council assem-
bled here in 325, which endeavoured to suppress
the doctrines of Arius. It was formerly a large,
populous, and well-built place, and is still con-
siderable. See ISNIK.

NICE, an ancient, handsome, and considerable
city of the Sardinian states, the capital of the
province of the same name, and a bishop's see,
stands at the mouth of the river Paglion, on the
Mediterranean, at the foot of a noble amphi-
theatre of hills, covered to the top with villas,
gardens, and groves of fruit-trees. The Alps
terminate the prospect on one side, and the
Mediterranean on the other; while from the
back part of the basin in which the town stands
rises a high rock, once surmounted by a castle,
which adds considerably to the effect of the
whole. Nice is still surrounded with a rampart,
and is divided into the Old and New town; the
streets of the former are narrow, but those of the
latter are tolerably wide and regular. The
houses, particularly in the suburb called the
Marble Cross, are neat, and painted in fresco,
which gives them a clean and cheerful appear-
ance: they are in general surrounded with gar-
dens planted with orange and lemon trees.
There are two public squares, one of which,
surrounded with porticos, may rival any of the
squares of the capitals of Europe. The other
is bordered by a terrace, which serves both as a
public walk and as a mound against the sea.
The cathedral is the chief public building worth
notice; but here are also a theatre, baths, coffee-
houses, a library, and delightful walks for the
residents. These, added to the salubrity of the
climate in consumptive complaints (arising, it is
said, from the sheltered position), render Nice a
favorite place of resort on the part of foreigners,
particularly our own countrymen. The harbour,
protected by a mole, is capable of admitting
vessels of 300 tons. The trade consists chiefly
in the export of oil, wine, silk, liqueurs, essences,
and perfumery. Here are also manufactures of
paper, silk, leather, soap, and tobacco. Popu-
lation 18,500: ninety-two miles south-west of
Genoa, and ninety-two south by west of Turin

Nice has often been taken by the French, particularly in 1744, but restored after the treaty of Aix-la-Chapelle. The castle above named, much esteemed for its position, was destroyed in 1706 by Mareschal Berwick, the garrison being too small to defend the works. The city was again taken by the French under general Anselm and admiral Truguet, on September 19th, 1792, and the Piedmontese garrison evacuating it on their approach, and long continued a part of the French empire.

NICE, a mountainous province or country of the Sardinian states, bounded by Genoa, Monaco, the Maritime Alps, the French department of the Var, and the Mediterranean. Though commonly considered in Piedmont, it is separated from it by the Alps; its superficial extent is 1230 square miles; its population 91,000. In the northern part the surface is chiefly occupied with pasturage; but in the south the culture of olives, wine, and fruit succeeds. The quantity of corn grown is small, but bees are reared with success, and honey is made in a large quantity. Several parts produce also valuable timber. Its manufactures are on a small scale, and consist of coarse woollens, netting, and soap made of olive oil. It is divided into the districts of Nice and Sospello, and has two towns and ninety-nine villages.

The NICENE CREED was composed and established, as a proper summary of the Christian faith, by the council at Nice in 325, against the Arians. It is also called the Constantinopolitan Creed, because it was confirmed, with some few alterations, by the council of Constantinople in 381.

NICEPHORUS I., emperor of the East, was chancellor of the empire under the empress Irene, whom he dethroned and banished to Mitylene. He was killed in battle by the Bulgarians, A. D. 811.

NICEPHORUS II., from his popularity, was raised to the imperial throne in 963; and married the widow of his predecessor, Romanus. He drove the Saracens out of a great part of Asia, but proved a tyrant to his subjects; and was assassinated by John Zimisceus and other conspirators in 969.

NICEPHORUS III. was made emperor by the army which he commanded in 1077; but was dethroned by his general Alexius Comnenus, in 1080, and sent to a convent, where he died soon after.

NICEPHORUS (Calistus), a Greek historian, who flourished in the fourteenth century under the emperor Andronicus II., wrote an ecclesiastical history, in twenty-three books, eighteen of which are still extant, containing the transactions of the church from the birth of Christ to the death of Phocas in 610. We have nothing but the arguments of the other five books, from the commencement of the reign of Heraclitus to the end of that of Leo the philosopher, who died in 911. Nicephorus dedicated his history to Andronicus II. It was translated into Latin by John Langius, and has gone through several editions, the best of which is that of Paris, 1630.

NICEPHORUS (Gregory), a Greek historian, who was born about the close of the thirteenth

century, and flourished in the fourteenth, under the emperors Andronicus II. and III. John Palæologus, and John Cantacuzenus. He was a great favorite of Andronicus II., who made him librarian of the church of Constantinople, and sent him ambassador to the prince of Servia. He accompanied this emperor till his death; after which he repaired to the court of Andronicus III. where he was well received; and by his influence the Greeks refused to enter into any conference with the legates of pope John XXII. But in the dispute which arose between Barlaam and Palamos, taking the part of the former, he maintained it zealously in the council held at Constantinople in 1351, for which he was cast into prison, and continued there till the return of John Palæologus, who released him; after which he held a disputation with Palamos before that emperor. He compiled a history, which in eleven books contain all that passed from 1204, when Constantinople was taken by the Franks, to the death of Andronicus III. in 1341. The best edition is that of the Louvre, in Greek and Latin, in 1702.

NICEPHORUS BLEMMIDAS, a priest and monk of Mount Athos, who flourished in the thirteenth century. He refused the patriarchate of Constantinople, being favorable to the Latin church, and much inclined to peace. In this spirit he composed two treatises concerning the Procession of the Holy Ghost; one addressed to James patriarch of Bulgaria, and the other to the emperor Theodore Lascaris. These two tracts are printed in Greek and Latin by Allatius, who has also given us a letter written by Blemmidas on his expelling from the church of her convent Marchesinos, mistress of the emperor John Ducas. There are several others of his pieces in the Vatican library.

NICERON (John Francis), was born at Paris in 1613. Having finished his academical studies with success, he took the habit of the Minims in 1632, his paternal uncle being a Minim. His taste for optics and the mathematics appeared early; and he devoted thereto all the time he could spare, after he had completed his studies in theology. He tells us, in the preface to his *Thaumaturgus Opticus*, that he went twice to Rome; and that, on his return home, he was appointed teacher of theology. He afterwards accompanied F. De la Noue, vicar-general of the order, in his visitation of the convents throughout all France. He died at Aix in Provence, Sept. 22d, 1646, aged thirty-three. He was intimate with Des Cartes. His other writings are, *L'Interpretation des Chiffres*; and *La Perspectif Curieuse*.

NICERON (John Peter), so much celebrated on account of his *Memoirs of Men illustrious in the Republic of Letters*, was born at Paris, March 11th, 1685. He was of an ancient and noble family, who were in very high repute about 1540. He studied with success in the Mazarine college at Paris, and afterwards at the college Du Plessis. Resolving to forsake the world, he consulted one of his uncles, who belonged to the order of Barnabite Jesuits, and introduced him as a probationer to that society at Paris. He was received in 1702, took the habit in 1703, and his vows in

1704, at the age of nineteen. After this he was sent to Montargis, to study philosophy and theology; thence to Loches in Touraine, to teach those sciences. He received the priesthood at Poitiers in 1708. Not being of age to assume this order, a dispensation was obtained in his favor. The college of Montargis having recalled him, he was their professor of rhetoric two years, and of philosophy four. In spite of all these avocations, he preached often in most of the churches in the province, as well as in those of Paris. In 1716 his superiors invited him to that city. He died after a short illness, July 8th, 1738, at the age of fifty-three. His works are, 1. *Le Grand Febrifuge*; or a dissertation to prove that common water is the best remedy in fevers, and even in the plague; translated from the English of John Hancock, minister of St. Margaret's, London, in 12mo. 1720. It went through three editions; the last came out in 1730, in 2 vols. 12mo., entitled *A Treatise on Common Water*, Paris. 2. *The Voyages of John Ouvington to Surat, and divers parts of Asia and Africa, containing the history of the revolution in the kingdom of Golconda, and some observations upon silk worms*, Paris, 1725, 2 vols. 12mo. 3. *The Conversion of England to Christianity, compared with its pretended Reformation*, Paris, 1729, 8vo. 4. *The Natural History of the Earth*, translated from the English of Mr. Woodward, by Dr. Nogues, with an answer to the objections of Dr. Camerarius; containing also several letters written on the same subject, and a methodical distribution of fossils, translated from the English by Niceron, Paris, 1735, 4to. 5. *Memoirs of Men illustrious in the Republic of Letters*, with a critical account of their works, Paris, 12mo. The first volume of this great work appeared in 1727; the others were given to the public in succession, as far as the thirtieth, which appeared in 1738. The fortieth volume was published after the death of the author, in 1739.

NICETAS (David), a Greek historian, a native of Paphlagonia, who lived about the end of the ninth century. He wrote the *Life of St. Ignatius*, patriarch of Constantinople, which was translated into Latin by Frederic Mutius, bishop of Termoli; also several panegyrics on the apostles and saints, inserted in the continuation of the *Bibliotheca Patrum* by Combesis.

NICETAS ARHOMINATES, a Greek historian of the thirteenth century, called also Coniates, being born at Chone, or Colossus, in Phrygia. He was employed in several considerable affairs at the court of Constantinople; and when that city was taken by the French, in 1204, he withdrew with a young girl taken from the enemy, to Nice in Bithynia, where he married his captive, and died in 1206. He wrote a *History*, or *Annals*, from the death of Alexius Comnenus in 1118, to that of Baldwin I. in 1205; of which work we have a Latin translation by Jerome Wolfius, printed at Basil in 1557; and in the body of the Byzantine Historians, printed in France at the Louvre.

NICHE, *n. s.* Fr. *niche*; Ital. *nicchio*; Span. *nicho*. A hollow in which a statue, bed, &c., may be placed.

Niches, containing figures of white stone or marble, should not be colored in their concavity too black.

Wotton.

They not from temples, nor from gods refrain,
But the poor lares from the *niches* seize,
If they be little images that please.

Dryden.

On the south a long majestick race
Of Ægypt's priests, the gilded *niches* grace.

Pope.

The heirs to titles and large estates are well enough qualified to read pamphlets against religion and high flying; whereby they fill their *niches*, and carry themselves through the world with that dignity which best becomes a senator and a squire.

Swift's *Miscellanies*.

God gives to every man

The virtue, temper, understanding, taste,
That lifts him into life, and lets him fall
Just in the *niche* he was ordained to fill.

Cowper.

NICHOLAS, CAPE ST., the north-west cape of the island of St. Domingo, is two leagues west of the town of this name, nine or ten leagues east of Cape Mayzi, at the east end of the island of Cuba, and forty-six leagues north-east by north of Cape Dame Marie, and, with this last cape, forms the entrance into the Bight of Leogane. In July, 1811, a smart shock of an earthquake was felt here.

NICHOLAS ISLAND, a small isle in the West Indies, on the north coast of the island of Cuba. Long. 79° 40' W., lat. 23° 15' N.

NICHOLLS (Dr. Frank), an eminent physician, born in London in 1699. His father was a barrister at law; and both his parents were of good families in Cornwall. After being educated at a private school in the country, Frank was removed to Westminster, and thence to Oxford, where he was admitted a commoner at Exeter college, under the tuition of Mr. John Haviland, on March 4th 1714. There he made rapid progress in all the usual academical studies, particularly in natural philosophy, anatomy, and dissections. Being chosen reader of anatomy, in that university, he employed his utmost attention to elevate and illustrate a science which had there been long depressed and neglected. About this time he visited the continent, and acquainted himself with the opinions of foreign naturalists on this his favorite study. On his return to London he repeated his physiological lectures, which were much frequented. Soon after, his new and successful treatment of the military fever, then very prevalent in the south of England, added much to his reputation. In the beginning of 1728 he was chosen F. R. S., and in 1729 took the degree of M. D. at Oxford. Dr. Nicholls was chosen a fellow of the college of physicians, London, June 26th, 1732; and two years after, being chosen Gulstonian reader of Pathology, he made the structure of the heart, and the circulation of the blood, the subjects of his lectures. In 1736, at the request of the president, he again read the Gulstonian lecture, on those parts of the human body which serve for the secretion and discharge of the urine; and the causes, symptoms, and cure of the diseases occasioned by the stone. In 1739 he delivered the anniversary Harveian oration. In 1743 he married Elizabeth, youngest daughter of the cele-

brated Dr. Mead, by whom he had five children, of whom two sons and a daughter survived him. In 1748 he undertook the office of surgical lecturer, beginning with a learned and elegant dissertation on the *Anima Medica*. About this time, on the death of Dr. John Cunningham, one of the elects, Dr. Abraham Hall was chosen to succeed him, in preference to our author, who was his senior, without any apparent reason. He immediately resigned the office of chirurgical lecturer, and never afterwards attended the meetings, except when business of the utmost importance was in agitation. In 1751 he took some farther revenge in an anonymous pamphlet, entitled the *Petition of the Unborn Babes* to the Censors of the Royal College of Physicians of London. In 1753, on the death of Sir Hans Sloane, bart. in his ninety-fourth year, Dr. Nicholls was appointed to succeed him as one of the king's physicians, and held that office till the death of his royal master in 1760, when this most skilful physician was superseded with the offer of a pension, which he rejected. The causes, &c., of the uncommon disorder of which the late king died, viz. a rupture of the right ventricle of the heart, our author explained in a letter to the earl of Macclesfield, F. R. S., published in the *Philosophical Transactions*, vol. I. In 1772 to a second edition of his treatise *De Anima Medica*, he added a dissertation *De motu cordis et sanguinis in homine nato et non nato*, inscribed to his learned friend and coadjutor the late Dr. Lawrence. Tired at length of London, and desirous of superintending the education of his son, he removed to Oxford. But afterwards returned to London, where he passed the remainder of his life in a literary retirement. He died in 1778, in the eightieth year of his age.

NICHOLS (William), an English divine, son of John Nichols of Doddington, in Bucks, born in 1664. In 1679 he became a commoner of Magdalen Hall, Oxford, whence he removed to Wadham College, and took the degree of A. B. November 27th, 1683. In Oct. 1684 he was admitted fellow of Merton College. In 1688 he took the degree of M. A.; and about the same time, being admitted into orders, he became chaplain to Ralph earl of Montagu, and was in September 1791 made rector of Selsey, near Chichester, in Sussex. He was admitted B. D. July 2d, 1692; and D. D. November 29th, 1695. His time was wholly devoted to study, and he published in Latin and in English no fewer than nineteen works in defence of Christianity, and of the church of England. He died in 1712. Of his numerous publications, those which are most generally known are, *A Conference with a Theist*, an excellent work in five parts, and *A Comment on the Book of Common Prayer and Administration of the Sacraments*, &c. A volume of *Letters in Latin* between him and Joblouski, Ostervald, and Wetstein, &c., was presented October 28th, 1712, by his widow to the archbishop of Canterbury; and is preserved among the valuable MSS. at Lambeth.

NICHOLS (John), F. S. A., of London, Edinburgh and Perth, and nearly half a century editor of the *Gentleman's Magazine*, was born at Islington, February 1744, and became at an early

age an apprentice to Mr. Bowyer, the celebrated printer. Being well educated and intelligent he was admitted into partnership with his master, on whose death he succeeded to the entire management of the typographical establishment; and in 1778 became coadjutor with Mr. David Henry, in the *Gentleman's Magazine*. On the decease of the latter the duties of editor devolved on Mr. Nichols, who inserted in almost every number some of his own productions relating to British topography or antiquities. He was a member of the common council of the city of London from 1784 to 1801; and in 1804 was chosen master of the Stationers' Company. In 1808 his office and a great number of valuable works were destroyed by fire. Among his numerous publications were, *Anecdotes, literary and biographical, of William Bowyer, 1778, 8vo.* which formed the basis of his *Literary Anecdotes of the Eighteenth Century, 9 vols. 8vo.*; illustrations of the *Literature of the Eighteenth Century, 3 vols., 8vo.*, supplementary to the preceding work; and *The History and Antiquities of Leicestershire, folio*. This ornament to his profession died November 26th, 1826.

NICHOLSON (William), an ingenious miscellaneous writer, was born in London in 1758, and went to India in the maritime service when young. In 1776 he was an agent on the continent for Wedgewood's Staffordshire-ware; and afterwards settled in London as a mathematical teacher. An academical establishment which he had formed proved unsuccessful; but he took out patents for various inventions, and published a *Journal of Natural Philosophy, Chemistry, and the Arts*. This, however, proved of little emolument to him. He was at one time engineer to the Portsea Water-works Company. He died, we regret to add, in poverty in 1815. His works are compilations, being executed with judgment, and many of them useful. The best are, *An Introduction to Natural Philosophy, 1782, 3, vols. 8vo.*; *The First Principles of Chemistry, 8vo.*; and a *Dictionary of Chemistry, 2 vols. 4to*. The *Encyclopædia* published under his name is understood to have been the work of Mr. Joyce.

NICIAS, a celebrated Athenian general, contemporary with Alcibiades, who was his rival. Being sent against Sicily, and not properly supported with supplies, he was obliged to surrender to the Sicilians, who put him to death, A. A. C. 413.

NICIAS, a celebrated painter of Athens, who flourished about A. A. C. 322, and was universally extolled for the great variety and noble choice of his subjects, the force and relief of his figures, his skill in the distribution of the lights and shades, and his dexterity in representing all sorts of four-footed animals, beyond any master of his time. His most celebrated piece was that of *Tartarus or Hell*, as described by Homer, for which king Ptolemy I. offered him sixty talents, or £11,250, which he refused, and generously presented it to his own country. He was much esteemed likewise by all his contemporaries for his excellent talent in sculpture.

NICK, *n. s. & v. a.* Dan. and Swed. *nik*; Teut. *nick*, a twinkling of the eye, of Lat.

nutatio. A crisis or exact point of time; hence a hit; a trick; something done accurately and cleverly: to hit; to touch luckily or at the right moment; to fit or suit; cheat or cozen.

Why should he follow you?

The itch of his affection should not then

Have *nicked* his captainship, at such a point.

Shakspeare.

Words *nicking* and resembling one another, are applicable to different significations.

Camden.

What in our watches that in us is found,

So to the height and *nick* we up be wound,

No matter by what hand or trick.

Suckling.

That great instrument of state suffered the fatal thread to be spun out to that length for some political respects, and then to cut it off in the very *nick*.

Howel's Vocal Forest.

That trick,

Had it come in the *nick*,

Had touched us to the quick.

Deuham.

When that, which in itself is not ordinary, nor could well be expected, doth fall out happily in the *nick* of an exigency, for the relief of innocence, or the encouragement of goodness; this is a shrewd indication, that God's hand is then concerned.

Barrow.

Though dame fortune seem to smile,

And leer upon him for a while;

She'll after show him in the *nick*

Of all his glories a dog trick.

Hudibras.

And some with symbols, signs, and tricks,

Engraved in planetary *nicks*,

With their own influences will fetch them

Down from their orbs arrest and catch them.

Id.

This *nick* of time is the critical occasion for the gaining of a point.

L'Estrange.

The just season of doing things must be *nicked*, and all accidents improved.

Id.

Take away passion while it is predominant and afloat, and just in the critical height of it, *nick* it with some lucky or unlucky word, and you may certainly over-rule it.

South.

Come, seven's the main,

Cries Ganymede; the usual trick

Seven, slur a six, eleven a *nick*.

Prior.

NICK, *n. s., v. a. & v. n.* Dim. of *nock*. A notch; and hence a score or reckoning often kept on notched sticks; to cut or be cut in *nicks* or notches.

Lance his man told me, he loved her art of all *nicks*.

Shakspeare.

His beard they have singed off with brands of fire;

And ever as it blazed they threw on him

Great pails of puddled mire to quench the hair,

My master preaches patience, and the while

His man with scissars *nicks* him like a fool.

Id.

Breaks watchmen's heads, and chairmen's glasses, And thence proceeds to *nicking* sashes.

Prior.

NICKEL, in chemistry, metallurgy, and mineralogy, a metal formerly classed among the semimetals. Several eminent chemists were long of opinion that it was a compound; and even Bergman himself conjectured that it was a modification of iron; but it is now universally ranked as a distinct metal. See CHEMISTRY, Index. 'It had its name,' says Sir T. Bergman, 'from this circumstance, that, though it has the appearance of containing copper, not the smallest particle of that metal can be extracted from it, even by fire.' It was first mentioned by N. Hiema, in 1694, in a book written in the Swedish language, concern-

ing the discovery of ores and other mineral substances. It was supposed by Henckel to be a species of arsenic alloyed with copper. Cramer classed it with the arsenical or cupreous ores; though both they and all other chemists confess that they were never able to extract one particle of copper from it. Mr. Cronstedt, in 1751 and 1754, showed by many accurate experiments that it contained a new semimetal. The solutions of nickel in all the acids are green. Citric acid seems not to act at all upon nickel. All the acids are deeply tinged by dissolving nickel. Ammonia dissolves it, and the solution is of a blue color; the fixed alkali dissolves it very sparingly, and forms a yellow solution. Nickel becomes the more difficult of fusion in proportion to its purity, so that at last it requires nearly as great a heat for this purpose as malleable iron. It is easily melted with other metals, but its great scarcity has prevented this matter from being thoroughly investigated. When well freed from cobalt, it easily unites in equal proportions with silver, without any remarkable diminution of the whiteness or ductility of the latter. This mixture, fused with borax, tinges it of an hyacinthine color. Copper unites more slowly with depurated nickel, yielding a red and ductile metallic mass, which tinges borax of a reddish hyacinthine color. It produces only a brittle mass with tin; in which respect it differs from cobalt. It could not be amalgamated with mercury by trituration. Nickel is constantly attracted by the magnet, and that not at all in proportion to the quantity of iron it contains; for the more it is purified from this metal, the more magnetical it becomes. M. Chenevix observed, that a very small portion of arsenic prevents nickel from being affected by the magnet. Richter found the same. When it is not attractible, therefore, we may be pretty certain that this is present. To separate the arsenic, M. Chenevix boiled the compound in nitric acid, till the nickel was converted into an arseniate; decomposed this by nitrate of lead, and evaporated the liquor, not quite to dryness. He then poured in alcohol, which dissolved only the nitrate of nickel. The alcohol being decanted and evaporated, he redissolved the nitrate in water, and precipitated by potassa. The precipitate, well washed and dried, he reduced in a Hessian crucible lined with lampblack, and found it to be perfectly magnetic; but this property was destroyed again, by alloying the metal with a small portion of arsenic. Alloying it with copper weakens this property.

There are two oxides of nickel; the dark ash-gray, and the black. If potassa be added to the solution of the nitrate or sulphate, and the precipitate dried, we obtain the protoxide. It may be regarded as a compound of about 100 metal with twenty-eight of oxygen; and the prime equivalent of the metal will become 3.6, while that of the protoxide will be 4.6. The peroxide was formed by Thenard, by passing chlorine through the protoxide diffused in water. A black insoluble peroxide remains at the bottom.

Little is known of the chloride, iodide, sulphuret, or phosphuret of this metal. A compound, resembling meteoric iron, has been made

by fusing together about five or ten parts of nickel with ninety-five or ninety of iron. The meteoric iron from Baffin's Bay contains three per cent. of nickel, the Siberian contains ten per cent. by Mr. Children's accurate analysis.

NICK-NAME, *n. s.* Fr. *nom-de-nique*, a name given by way of trick, joke, or in derision.

You *nick-name* virtue vice ;

For virtue's office never breaks men's troth.

Shakspeare.

My mortal enemy hath not only falsely surmised me to be a feigned person, giving me *nick-names*, but also hath offered large sums of money to corrupt the princes with whom I have been retained.

Bacon's Henry VII.

The time was when men were had in price for learning ; now letters only make men vile. He is upbraidingly called a poet, as if it were a contemptible *nick-name*.

Ben Jonson.

Less seem these facts which treasons *nickname* force,

Than such a feared ability for more. *Denham.*

So long as her tongue was at liberty, there was not a word got from her, but the same *nickname* in derision.

L'Estrange.

NICOBAR ISLANDS. The Nicobar Islands are a group of islands twenty in number, forming a chain between the Andamans and Sumatra, in the bay of Bengal: about nine of them are of some size, and hence they are named in Malay the Sambalang, or Nine Islands. They are in general mountainous, and covered with impenetrable forests, in which are found the baringtonia, tournefortia, and borassus. The valleys are fertile, but receive no other cultivation from the natives than slightly turning up the soil, and planting the cocoa and areca, palms, yams, and sweet potatoes. The spontaneous fruits are the plantain, papa, pine apple, tamarind, mellori, orange, lemon, &c. The wild animals are the hog, hog deer (babeeroussa of the Malays), monkeys, squirrels, and rats. The natives breed a great number of hogs, which, being fed entirely on cocoa-nuts, are excellent; they have also plenty of poultry. Among the birds are pheasants, pigeons, and doves, and the salangane, which builds its nest in the crevices of the rocks. The bays abound in fish; and ambergris is sometimes found on the shores, which are also frequented by the green turtle.

All the larger Nicobars are inhabited by a race differing both from the natives of Hindostan and from the Malays, but approaching nearest to the latter. Their color is a deep copper, the lips thick and mouth wide; the heads of newborn infants are flattened by pressing on the occiput, which has the effect of causing the teeth when they grow to project outward; their hair is long and black, they have little beard, and shave the eyebrows. Their clothing is a strip of cloth of the bark of a tree round the middle. Their huts resemble bee-hives, raised off the ground ten feet, and entered by a trap-door below, through which the ladder that serves to ascend by is drawn up; they are thatched with the leaves of the cocoa palm. Ten or twelve of these huts form a village, and they are only met with on the shores, the interior being covered with impenetrable wood and uninhabited. The men are indolent, obliging the women to cultivate

the ground, and row in the canoes, while they amuse themselves with fishing, in which a harpoon or spear alone is used, for they have neither nets nor hooks and lines; the fishing time is the night, when they light fires in their canoes, to attract the fish.

Marriages amongst these people are by mutual consent, but the man can put away his wife and take another at his pleasure. Adultery is punished with death when the female is of higher rank than her lover, but among men of the same class it is common to lend each other their wives for a leaf of tobacco; barrenness is a great stain, and the odium is only got rid of on the birth of the third child. They are subject to few diseases, and when ill take no internal medicines, but rub the body with oil, while the priest, who is also the physician, repeats an incantation. Their language is a dialect of the Malay; their amusements are dancing and monotonous and melancholy vocal music; for they have no instruments except the gong. They have no other religion than a superstitious belief in evil spirits. They bury the dead close to the huts, after the relations have howled over the corpse for several hours, and in the grave are deposited areca, cocoa-nuts, and other victuals. The names of the dead are never repeated, but an annual ceremony is performed at the graves, which consists in the women taking out the skull, washing it in cocoa-nut liquor and an infusion of saffron, and replacing it in the grave; the following day several hogs are sacrificed, with whose blood the men smear their bodies, devour the meat, and wash it down with fermented toddy till quite drunk, when they sometimes fall out and fight, but as their only weapons are sticks, lives are seldom lost: for the rest, they are said to be hospitable, honest, and strict to their word. Some Danish missionaries, who remained a considerable time at Katchall, had no success in bringing them to Christianity. The objects the islands afford for commerce are cocoa-nuts (which are esteemed the best in India) and cowries, but they are only taken off by occasional vessels passing to other places.

Carnicobar, the northern island, is six miles long and five broad, low and level; it is well peopled, having many villages on the shores, of fifteen to twenty huts, each containing twenty persons or upwards. Batty Malve, or Bali-malu, also called the Quoin, from its shape, is not above four miles in circuit, and is composed of rock covered with a thin layer of soil, producing only shrubs and stunted trees; it has neither inhabitants nor fresh water. Chowry is a singular little island, not above two miles in circuit, and scarcely raised above the level of the sea, except at one end, where is a perpendicular rock, towering above the cocoa-nut and other fruit trees that cover the low land: the islanders breed abundance of hogs.

Teresa is four leagues long and one and a half broad, elevated at each end and low in the middle; it is inhabited. Off its south-east end is Bompoka, a little mountain island, whose women are remarkable for being much fairer than the other Nicobarians. Tillanchong is about four leagues long and one broad, forming a high rug-

ged mountain, and only inhabited by criminals driven from the other islands.

Camorta is five leagues long and one broad; it is composed of two peninsulas, formed by a lagoon on the west. Among the trees with which it is covered is the poon, used in India for masts. It has some very fruitful spots, but is thinly inhabited; and water, which is procured from wells, is scarce in the dry season.

Trincutte is a low level island, close to the east side of Camorta; it is entirely covered with he cocoa and areca palm.

Nancowry island, off the south end of Camorta, four miles in circuit, rugged and uneven, bounding in limestone, thickly wooded, and with few inhabitants. The channel between this island and Camorta forms the harbour of Nancowry, capable of sheltering a large fleet from all winds. The Danes hoist a flag here, but three or four Moravian missionaries are the only Europeans; and, as we have before noticed, their mission is by no means successful.

Katchall, or Tillanchool Island, is nine leagues in circuit, moderately elevated, and covered with wood. *Meroe*, or Passage Island, is small and low, three leagues north-west of the Little Nicobar. The two southernmost islands are called the Little and Great Nibars or Sambilangs. The Little Nicobar is four leagues long and two broad, moderately elevated; its inhabitants are more shy than the other islanders, seldom visiting passing ships. The strait between the Little and Great Nicobar is named St. George's Channel, and is three miles broad, but the bottom is foul, and the current sets strong through it; whence ships prefer the Sombrero channel, between Nancowry and Meroe.

Great Nicobar, the southernmost island, is the largest, being ten leagues long and four to five broad, and so elevated as to be seen twelve leagues; it is less known than the other island, being out of the usual track of ships to or from the strait of Malacca.

NICODEMUS, a disciple of Jesus Christ, a Jew by nation, a member of the sanhedrim, and by sect a Pharisee. The scripture calls him a ruler of the Jews, and our Saviour gives him the title of a master of Israel. His private visit to our Lord by night; his interesting conversation with him upon regeneration; his judicious remark to the Jewish Sanhedrim, that the law condemns no man unheard; and his boldness at last in openly avowing himself a disciple of Jesus, when almost all the rest had forsaken him, and joining with Joseph of Arimathea in paying the last duties of respect to his body, are recorded in John iii. 1—21; viii. 50; and xix. 39, 40. It is said that Nicodemus received baptism from the disciples of Christ; and that the Jews, hearing of this, deposed him from his dignity of senator, excommunicated him, and banished him from Jerusalem: but that Gamaliel, who was his cousin-german, took him to his country house, and maintained him till his death, when he had him buried honorably near St. Stephen. There is extant an apocryphal gospel under the name of Nicodemus, which in some MSS. bears the title of the Acts of Pilate.

NICOLAI (Christopher Frederick), a learned

German writer, was born at Berlin in 1735, his father being an eminent bookseller. After having been educated at Halle, he was sent to Frankfurt on the Oder, to acquire a knowledge of his father's business, to whose establishment he returned in 1752; but devoted much of his attention to literature. Being acquainted with Lessing and Mendelsohn, he engaged with them in the Library of the Belles Lettres, continued from 1757 to 1760, and forming 24 vols. 8vo. With Abbt he afterwards published Letters on Modern Literature, 24 vols. 8vo.; succeeded by the General German Library, which he edited from 1765 to 1792, in 107 vols. After an interruption of some years the undertaking was resumed, under the title of the New General German Library, 1800—1805. Nicolai died January 8th, 1811, having, besides his periodical productions, published the Life and Opinions of Sebaldus Nothanker, a novel, which has been translated into English; an Account of a Tour in Germany and Switzerland in 1781; Characteristic Anecdotes of Frederick II.; and various other works.

NICOLAITANS, in church history, Christian heretics, who are said to have assumed this name from Nicolas of Antioch; whose zeal and devotion recommended him to the church of Jerusalem, to be chosen one of the first deacons. Their infamous practices were expressly condemned by the Spirit of God himself, Rev. ii. 6. They allowed a community of wives, and made no distinction between ordinary meats and those offered to idols. According to Eusebius they subsisted but a short time; but Tertullian says that they only changed their name, and that their heresies passed into the sect of the Cainites.

NICOLAS, one of the first seven deacons in the Christian church, a native of Antioch, a proselyte to the Jewish religion, and a convert to Christianity. He is generally supposed to have been the founder of the heretical sect of the Nicolaitans; but many of the primitive writers are of opinion that he was rather, by some imprudence, the occasion, than the author, of that immoral heresy. Some even say that the founder of that sect was quite a different person.

NICOLE (Peter), one of the finest writers of his age, was born at Chartres in 1625. He adhered to the Jansenists, and joined in the composition of several works with Mr. Arnauld, whose faithful companion he was during the ten or twelve years of his retirement. He gave a Latin translation of Pascal's Provincials, and added a commentary to them. One of his finest works is his *Essais de Morale*. He wrote very subtly against the Protestants. His Treatise on the Unity of the Church is esteemed a masterly piece. He died in Paris in 1695, a few days after the publication of his treatise concerning the Quietists. He was well skilled in polite literature. To him is ascribed a collection of Latin epigrams, and of Greek, Spanish, and Italian sentences, which has a learned preface, and has gone through several editions.

NICOLE (Francis), a celebrated French mathematician, born at Paris, 23d December, 1693. Showing early signs of a predilection for mathematics, M. Montmort undertook to educate him,

and soon instructed him in the higher geometry. He first attracted the public attention by detecting the falsehood of a boasted quadrature of the circle. One M. Mathulon thought himself so certain that he had discovered the quadrature, that he deposited in the hand of a notary public at Lyons 3000 livres, to be paid to any man who should prove the falsity of his solution;—the question to be decided by the academy of sciences. Nicole accepted the challenge, exposed the paralogism, and the academy decided that Nicole had clearly proved that the rectilinear figure, which Mathulon had given as equal to the circle, was not only unequal to it, but that it was even greater than the polygon of thirty-two sides circumscribed about the circle. Nicole gave the 3000 livres to the public hospital at Lyons. The academy appointed him *eleve mechanicien* 12th March 1707; adjunct in 1716; associate in 1718; and pensioner in 1724, which he enjoyed till he died, on the 18th January 1758, in his seventy-fifth year. He was author of twenty-six valuable papers, inserted in the memoirs of the academy, between 1707 and 1747; which are particularly enumerated in Dr. Hutton's *Mathematical Dictionary*.

NICOLSON (William), D. D., a learned English prelate, born at Orten, in Cumberland, in 1655, and educated at Oxford. He became fellow in 1679; archdeacon of Carlisle in 1681; D. D. in 1702; and bishop of Londonderry in 1717. In 1727 he was appointed archbishop of Cashell, but died at Derry before he could take possession of this dignity. He was a learned antiquary, and published several works, particularly the *English Historical Library* in 1714, folio.

NICOMEDES, a geometrician, famous on account of his invention of the curve called conchoid. See **CONCHOID**. It appears that he lived soon after Eratosthenes, for he rallied that philosopher on the mechanism of his mesolabe. Geminus, who lived in the second century before Jesus Christ, has written on the conchoid, though Nicomedes was always esteemed the inventor.

NICOMEDES I., king of Bithynia, had no sooner taken possession of his father's throne, A. A. C. 270, than he caused two of his brothers to be put to death. The youngest, Ziboeas, having saved himself by timely flight, seized on the coast of Bithynia, then known by the names of Thracia, Thynnicia, and Thracia Asiatica, and there maintained a long war with his brother. Nicomedes being informed that Antiochus Soter, king of Syria, was preparing to attack him at the same time, called in the Gauls to his assistance; and on this occasion that people first passed into Asia. Nicomedes, having with their assistance repulsed Antiochus, conquered his brother, and acquired the possession of all his father's dominions, bestowed upon them that part of Asia Minor which from them was called Gallo-Grecia and Galatia. He enlarged and adorned the city of Astacus, which he called Nicomedia. He had two wives, and by one of them was persuaded to leave his kingdom to her son in preference to his elder brothers.

NICOMEDES III., surnamed by antiphrasis

Philopater, because he had murdered his father to get possession of his crown. Having entered into alliance with Mithridates the Great, king of Pontus, he invaded Paphlagonia; and, having seized on that country, he tried likewise to make himself master of Cappadocia. This country, however, was then subject to his powerful ally; who, thereupon marching into Bithynia at the head of an army, drove Nicomedes from the throne, and raised his brother Socrates to it. The dethroned prince had recourse to the Romans, who restored him to his hereditary dominions. For this favor they pressed him, and at length prevailed upon him, contrary to his own inclination and the opinion of his friends, to make inroads into the territories of Mithridates, with whom Rome wanted a subject of dispute. The king of Pontus bore for some time the devastations committed by Nicomedes with great patience, that he might not seem to be the aggressor; but at last he routed his army on the banks of the Amnias, drove him a second time from his dominions, and obliged him to seek for shelter in Paphlagonia, where he led a private life till the time of Sylla, who replaced him on the throne.

NICOPOLIS, or **ΝΙΚΟΠΟΛΙΣ**, a large town of Bulgaria, situated on a hill on the left bank of the Danube, has an ancient castle, and several handsome mosques and baths. It is a place of considerable trade on the Danube, the see of a Greek archbishop, and the residence of a Turkish sangiac. It is, however, ill built, and partakes of all the miserable political degradation of the country around. It is said to have been founded by Trajan, and is remarkable as the scene of a battle gained in 1396 by the Turks over the Christians. 164 miles north-west of Adrianople, and 276 north-west of Constantinople. Population 20,000. Long. 24° 8' E., lat. 43° 45' N.

NICOSIA, a town of Sicily, in the Val di Demona, chiefly remarkable for its churches and convents. It has few manufactures, and a small export trade in corn and cattle. It is supposed to be the ancient Herbita, celebrated for its successful opposition to the arms of Dionysius, the tyrant of Syracuse, and is a strong military position. Inhabitants 13,000. Forty miles W. N. W. of Catania, and sixty E. S. E. of Palermo.

NICOSIA, the capital of Cyprus, stands in a fine plain, at the foot of a range of lofty mountains, and makes, with its numerous spires and minarets rising through the trees, a very picturesque appearance. Its ruined fortifications are conceived by Dr. Clarke still to exceed in magnificence those of almost every other city. The moat is half a mile wide: it is dry, or at most swampy, and grain is raised both in it and on the ramparts. Its appearance reminded Mr. Kinneir of Shiraz; but the extent and solidity of the walls and bastions gave it an air of incomparable grandeur. The *nutessellim*, or governor, inhabits the ancient palace of the Lusignan monarchs; but the finest edifice here is the Gothic church of St. Sophia, said to have been erected by Justinian. That of St. Nicholas is converted into a *bezestein*, and three others into mosques. There are also six Greek chapels, and a Catho-

lic convent. The chief part of the town consists of brick and mud huts, erected on the ruins of ancient edifices; and the bazaar, though well supplied, is only roofed with reeds and mats, which admit the rain. Here are manufacturers of Turkey leather, small carpets, and printed cottons. The red leather is remarkable for its brilliant color. The carpets, though barely large enough to cover an English hearth, are of excellent workmanship. The cotton cloths are also well dyed, and a great traffic is carried on in medals and other antiquities. The city contains 2000 Mahometan and 1000 Greek families, with a few Armenians and Maronites. Long. $33^{\circ} 26' 30''$ E., lat. $35^{\circ} 13' 14''$ N. Under the Lusignan kings, Nicosia was of very great extent, being nine miles, we are told, in circumference, and containing 300 churches, besides monasteries. The Venetians, on obtaining possession of it, reduced it, but surrounded it with very strong fortifications. In 1570 Selim II. took it by assault, and it has ever since remained under the dominion of the Turks.

NICOT (John), lord Villemain, and master of requests of the French king's household, was born at Nismes, and was sent ambassador to Portugal in 1559; whence he brought the tobacco plant, which, from his name, was at first called Nicotiana. He died at Paris in 1603. He wrote a French and Latin Dictionary, in folio; A Treatise on Navigation; and other works.

NICOTERA, a maritime town of Naples, in Calabria Ultra, is the see of a bishop, and contains a population of 6300. It was partly destroyed by the earthquake of 1783, and is thirty-two miles north by east of Reggio, and fifty S. S. E. of Cosenza.

NICOTIANA, tobacco, in botany, a genus of the monogynia order, and pentandria class of plants; natural order twenty-eighth, *luridæ*: cor. funnel-shaped, with a plaited limb; the stamina inclined: caps. bivalved and bilocular. There are seven species, of which the most remarkable is,—

N. tabacum, the common tobacco plant. This plant was first discovered in America by the Spaniards about 1560, and by them imported into Europe. It had been used by the inhabitants of America long before; and was called by the inhabitants of the islands yoli, and pætan by those of the continent. It was sent into Spain from Tabaco, a province of Yucatan where it was first discovered, and whence it took its name. Sir Walter Raleigh is said to have been the first who introduced it into England, about 1585, and taught his countrymen to smoke it. Dr. Cotton Mather, however, (in his Christian Philosopher), says, that in 1585 one Mr. Lane carried over some of it from Virginia, which was the first that had ever been seen in Europe. Tobacco is commonly used among the oriental nations, though it is uncertain by whom it was introduced among them. Considerable quantities of it are cultivated in the Levant, on the coasts of Greece, and the Archipelago, in Italy, and the island of Malta. There are two varieties of this species, distinguished by the names of Oronokoe and sweet-scented tobacco. They differ only in the figure of their leaves; those of

the former being longer and narrower than the latter. They are tall herbaceous plants, growing erect, with fine foliage, and rising with a strong stem from six to nine feet high. The stalk near the root is upwards of an inch in diameter, and surrounded with a kind of hairy or velvet clammy substance, of a yellowish-green color. The leaves are rather of a deeper green, and grow alternately two or three inches from each other. They are oblong, and of a spear-shaped oval, and simple; the largest about twenty inches long, but decreasing in size as they ascend, till they are only ten inches long, and about half as broad. The face of the leaves is much corrugated like those of spinach when full ripe. When they are about five or six inches long the leaves are generally of a full green, and rather smooth; but as they increase in size they become rougher, and acquire a yellowish cast. The stem and branches are terminated by large bunches of flowers collected into clusters, of a delicate red; the edges, when full blown, inclining to a pale purple. They continue in succession till the end of summer, when they are succeeded by seeds of a brown color, and kidney-shaped. These are very small, each capsule containing about 1000; and the whole produce of a single plant is reckoned at about 350,000. The seeds ripen in September. Mr. Carver informs us that the Oronokoe, or long Virginian tobacco, is the kind best suited for bearing the rigor of a northern climate; the strength, as well as the scent of the leaves, being greater than that of the other. The sweet-scented sort flourishes most in a sandy soil, and in a warm climate, where it greatly exceeds the former in the celerity of its growth, and is likewise much more mild and pleasant. Tobacco thrives best in a warm, kindly, rich soil, that is not subject to be overrun by weeds. In Virginia the soil in which it thrives best is warm, light, and inclining to be sandy; and therefore, to be cultivated in Britain, it ought to be planted in a soil as nearly of the same kind as possible. See TOBACCO.

NICTATE, *v. a.* Lat. *nicto*. To wink.

There are several parts peculiar to brutes which are wanting in man; as the seventh or suspensory muscle of the eye, the *nictating* membrane, and the strong aponeuroses on the sides of the neck.

Ray.

NICTATING, or NICTITATING MEMBRANE, a thin membrane chiefly found in birds and fish, which covers the eyes of these animals, sheltering them from dust, or too much light; yet is so thin and pellucid that they can see pretty well through it.

NIDDUL, in the Jewish customs, is used to signify separated or excommunicated. This, according to some, was to be understood of the lesser excommunication used among the Hebrews. He that had incurred it was to withdraw himself from his relations, at least to the distance of four cubits: it commonly continued a month. If it was not taken off in that time, it might be prolonged for sixty, or even ninety days; but if, within this term, the excommunicated person did not give satisfaction, he fell into the *cherem*, which was a second sort of excommunication; and thence into the third *ser*, called *shammata*

or shemmata, the most terrible of all. But Selden proves that there were only two kinds of excommunications, viz. the greater and less; and that these three terms were often used indifferently.

NID'GET, *n. s.* } Sax. *nid*. The opprobri-
NID'ING, *adj.* } ous term with which a man
was anciently bound who refused to come to
the royal standard. A coward; a dastard.

NIDIFICATION, *n. s.* Lat. *nidificatio*, *na-
dular*. The act of building nests: time of re-
maining in nests.

NID'OROUS, *adj.* } French *nidoreux* from
NIDOROS'ITY, *n. s.* } *nidor*. Resembling
the smell or taste of roasted fat: such a taste arising
in eructation.

NIEBHUR, Berthold George, a celebrated his-
torian of Rome, was born at Copenhagen, 27th
August, 1776, but before he had attained his
second year, was carried by his father into Ger-
many. He early evinced a predilection for classi-
cal learning, and adopted as friends and models
of imitation, Voss, Klopstock, and Busch. From
1793 to 1794, he was engaged in the study of the
law; he visited the College of Edinburgh at
the age of nineteen, and subsequently made a
sort of scientific or literary tour through England.
Upon his return to his native country he was
made private secretary to the Danish Minister,
and Director of the Bank. In 1806, he was taken
into the Prussian service, and made a privy-
counsellor; and in 1811 delivered his first lec-
ture upon Roman History, at the University of
Berlin, by which his classical fame was perma-
nently established. During his residence in Rome,
he became acquainted with Angelo Maio, and at
Verona discovered the institution of Caius: he
assisted Maio in his publication of the fragments
of Cicero. Here he wrote several Latin treatises
in the *Atti del' Academia di Archeologia*, and a Ger-
man essay on the age of Curtius and Petronius.
In Switzerland he found out the poem of Mero-
bandes, the latest perhaps of the Roman poets;
and on his return, delivered lectures in the uni-
versity of Rome. After a life of universal activ-
ity in the discovery of truth, and illustration of
dark parts of history, Niebhuur died January 2,
1831, at a period of life when much still of an
useful character might have been expected from
him.

NIEBLA, a considerable town of the province
of Seville, Spain, on the river Tinto. It is sur-
rounded with a wall, and coniers the title of
count on the eldest son of the house of Medina
Celi. In the neighbourhood is a considerable
copper mine. Population 9000. Eleven miles
N. N. W. of Moguer. Long. 6° 28' W., lat.
37° 29' N.

NIELD (James), a philanthropist of the
Howard school, was born at Knutsford in
Cheshire, May 24th, 1744, and was in the first in-
stance designed for agriculture. In his sixteenth
year, however, he became apprentice to a gold-
smith in London, and afterwards commenced
business in St. James's Street, where he realised
a fortune. He now devoted himself to the
employment of his well-earned leisure; and explored
all the prisons of the country with a view to their
amelioration. It was his constant practice to

wait upon the magistrates in the cities and
boroughs, and represent to them what he saw
amiss in the jails, or what his experience sug-
gested as improvements. In this way he occupied
nearly thirty years, and by his example and
communications to the magazines, particularly
the Gentleman's, excited beneficence in others.
He was also the chief founder of the society for
the relief and discharge of prisoners confined for
small debts, formed in 1773. Mr. Nield died
greatly lamented, February 16th, 1814.

NIEVRE, DEPARTMENT OF THE, is formed
out of the former province of Nivernois, and takes
its name from the river Nièvre, which waters it
from north to south. The chief place of this
prefecture is Nevers, and it consists of four
arrondissements or subprefectures; Nevers, con-
taining 76,831 inhabitants, Chateau Chinon
53,964, Clamecy 63,375, and Cosne 61,820;
being a total population of 257,990 souls, on an
area of 2988 square miles, yielding a territorial
revenue of 12,050,000 francs. It is subdivided
into twenty-five cantons, and 330 communes, is
in the twenty-first military division, having a
royal court at Bourges and a bishopric at Autun,
and consisting of two electoral arrondissements,
which send four members to the chamber of
deputies. This department is bounded on the
north by that of the Yonne; on the east by those
of the Côte-d'or and the Saone-et-Loire, on the
south by that of the Allier, and on the west by
that of the Cher.

The eastern part of the country is covered with
high mountains, and vast sandy plains between
them, which are, however, tolerably fruitful.
There are some forests which supply Paris with
great quantities of wood and charcoal; vineyards
of excellent quality, and fine pastures for cattle and
horses. It is intersected in every direction by
rivers and rivulets, which work many forges and
manufactories, and facilitate the transport of
wood from its vast forests, which would otherwise
be very difficult on account of the impassable
state of the roads for some part of the year. The
climate is temperate, but rather cold than hot,
and more moist than dry, the face of the country
being so much varied with plains and mountains.
The soil, which is gravelly, is cultivated with
oxen and horses, and yields more than a suffi-
cient supply for its inhabitants. It consists of
188,000 hectares of forest land (chiefly oak,
hornbeam and beech), and 12,000 hectares of
vineyards, yielding a mean produce of sixteen
francs eighty-five centimes per hectare of arable
land.

This country produces all sorts of grain,
vegetable, fruit, truffles, wines of a tolerably
good quality, &c. It has mines abounding in
iron, lead, and coal, and quarries of marble,
granite, gray whetstones, yellow ochre, and
quartz sand. There are mineral springs at
Pouges, and a hotwell at St. Honoré; also a
royal dépôt of standard measures at Corbigny.
The inhabitants manufacture coarse cloths, wool-
len stuffs, candles, violin strings, enamelled
works, metal buttons, nails, anchors, bullets,
bright ironmongery, cutlery, and porcelain. They
have forges, blast-furnaces, delf-factories, glass-
houses, brass-foundries, tan-yards, and a royal

foundry for anchors for the navy. The trade consists in all the above articles, together with copper, iron-plates, timber for staves, vine props, mill-stones, &c. The principal rivers that water this department are the Nièvre, the Allier, the Yonne, the Nohain, the Beauvron, the Aron, and the Alaigne, and it is crossed by the great roads of Moulins, Bourges, and Paris.

NIEMECZ, **NIMTEC**, or **NEMES**, a fortified town of Moldavia, situated on a mountain, at the foot of which runs the river Nicmezc, which afterwards joins the Moldava. Seventy-six miles W. N. W. of Jassi, and 280 north-east of Belgrade.

NIEMEN, a river of Lithuania, which rises a few miles south of Minsk, and passes by Grodno and Kowno, where it joins the Wilna. It soon after enters East Prussia, changing its name to Memel.

NIEUWLAND (Peter), late professor of mathematics and natural philosophy in the university of Leyden, was born at Diermermeer, a village near Amsterdam, November 5th, 1764. His father was a carpenter, and being fond of books, and acquainted with mathematics, instructed his son till he was in his eleventh year. Bernard and Jerome De Bosch, two of the wealthiest men in Amsterdam, then took him under their patronage. The former took him into his house in his eleventh year, and the latter instructed him for four years in Latin, Greek &c. He studied philosophy and mathematics under Wyttienbach. From September 1784 to 1785 he studied at Leyden; and afterwards at Amsterdam, under professor Van Swinden. He soon made himself master of the great Lavoisier's theory of Chemistry. But his attention was chiefly directed to three branches of science seldom pursued by the same person, viz. poetry, mathematics, and natural philosophy. In 1786 he was appointed a member of the commission chosen by the admiralty at Amsterdam, for determining the longitude and improving marine charts. In this labor he was employed eight years; and prepared also a Nautical Almanac, with tables, &c. In 1787 he was invited to Amsterdam by the magistrates to give lectures on Mathematics, Astronomy, and Navigation. In this situation he wrote his useful Treatise on Navigation, published at Amsterdam 1793. In 1789 he was chosen a member of a learned society, whose chief objects were chemistry and philosophy. For this society he wrote *Recherches Physico-chymiques*, in four parts; published in 1792—1794. He also wrote for it other ten papers; 1. On the Newest Discoveries in Astronomy; 1788: 2. On the Figure of the Earth; 1789: 3. On the Cause of Comets; 1790: 4. On Mathematics; 5. On the Light of certain Fixed Stars; 1790: 6. On Spherical Trigonometry; 1791: 7. On the Value of the Sciences; 1791: 8. On the System of Lavoisier; 1792: 9. On the Selenotopographia of Schroeder; 1793: 10. On Instruction; 1793. In July 1793 he was invited to be professor at Leyden, which he accepted; but died of a fever and inflammation of the throat on November 13th, 1794. His father was a Lutheran, and his mother a Baptist; but he himself was a Calvinist.

NIGER. The name by which a river of Cen-

tral Africa has been long designated; while its real sources, actual course, and place, as well as manner of termination, seem almost unknown alike to modern as to ancient geography: the name of such a river, Niger, is indeed wholly unknown in Africa. We may there hear of the Nil, or Nel (which seems only to signify running water); Neel el Abeed (or river of slaves); Neel Kibbeer; Joliba (or Great Water); and Guin or Jinn; not to add those of Quolla or Quarra, the Yeou, &c.;—as a large central stream (if these names all belong to the same stream) running from east to west. The Moors are said to call it Neel, or Nil Abeede, the Nile of Negroes; identifying it, without hesitation, as the same with the Egyptian Nile.

The existence of such a river was known to the ancients. Herodotus mentions an expedition into the heart of Africa, undertaken by 'Nasamonians,' who, being taken prisoners, were carried to a city inhabited by negroes, and situated on the banks of a river flowing to the east. This he infers (with the intelligent Quarterly Reviewer of our own day, see No. 58) to be probably a remote head of the Nile. Strabo, Mela, and Pliny, represent the same stream as rising in the western extremity of Mauritania; then as passing through unknown regions of great extent, and, according to some accounts, for a great space under ground, when it re-appears in Upper Ethiopia. Ptolemy, however, rejected altogether, with a large class of modern geographers, the idea of a communication between the Niger and the Nile. He describes in detail the course of what he calls the former, and represents it as terminating on the west in mount Mandrus (qu. Mandingo?) whence it gives rise to several extensive lakes.

The latest light upon this singular geographical problem (i. e. that furnished by the discoveries of major Denham and captain Clapperton), compared with recent scattered accounts from other sources, seems to throw the subject into greater confusion than ever: but we shall endeavour to bring before our readers the information that is most to be relied upon, not pledging ourselves, with major D., to decide which is 'the true Niger water.'

The Arabian geographers, to resume the progressive geography of the stream, uniformly represent the Niger as flowing from east to west into the sea, or a large lake: some of them identifying it with the Nile, or as rising from the same source, but forsaking it altogether very early in its course westward. Leo Africanus retains the delineation of the Niger flowing from east to west, and falling into the ocean; but, instead of deriving it from the same source as the Nile, he makes it flow from the lake of Bornou, situated deep in the interior of Africa; and his system was followed in all the European maps of the sixteenth and seventeenth centuries, in which the Senegal, the Gambia, and the Rio Grande, are all made the estuaries of this great central river. In the eighteenth century Delisle and D'Anville became fully satisfied that this delineation was erroneous, and constructed maps in which the Niger was represented as flowing to the eastward; but, instead of a single stream traversing the whole breadth of Africa, D'Anville

distinguishes—1. The Senegal, flowing westward, and falling into the Atlantic; 2. The Niger, flowing eastward, and terminating in the lake Reghebil, in Wangara; 3. Another river, yet further to the east, flowing in the opposite direction. A lake called Maberia was divided by his map into two parts, one of which became the source of the Senegal, which is represented as having its course westward, and the other of the Niger, which is said to flow eastward. All therefore of what Park saw of the latter river in Bambarra is in fact the Senegal of D'Anville, and is made to flow westward.

At length, however, the enterprising traveller we have named was destined to throw great light on a portion of its actual course. After penetrating various kingdoms of Western and Interior Africa, and being long captive among the Moors, Mr. Park came at last to Sego, the capital of Bambarra, where he beheld what he calls 'the long sought majestic Niger, glittering to the morning sun, as broad as the Thames at Westminster, and flowing slowly to the eastward.' See our article AFRICA. He then traced its course downwards to Silla, and upwards to Bammakoo, where it first, he says, becomes navigable, an extent of about 300 miles. Here it was reported to rise at no great distance, near Sankari, in Manding.

After the discoveries of Park, the opinion which became generally established was that of major Rennell, by which this great stream, after issuing from the lake Dibble, was supposed to flow eastward through the countries of Houssa and Cassina, till it was lost in the lakes or marshes of Wangara, or absorbed by evaporation. An inferior stream it was supposed, however, might flow still farther east, and exhaust itself in the lake of Fittre, on the southern frontier of Bornou, the Cauga of the Arabian geographers. But Mr. Jackson, the intelligent traveller in Morocco, and Hornemann, both state the universal conviction there to be, that the Niger flows eastward, and joins the Nile. The Moors are said by the former to express their astonishment when they hear Europeans doubting the identity of these streams; and Hornemann observes that, in Fezzan, he never met with any one who gave a different opinion. Mr. Jackson also states the positive assurance he received from a Moorish merchant of Jenne, that he, with some companions, had embarked at that place, sailed down the Niger and the Nile, and arrived *by water* at Cairo. The Niger of this merchant, however, was found by him, in many places, to be very low, and sometimes so entirely dried up, that it was necessary to take up their boats and *carry them over land*. Hornemann was also informed that the communication between the Niger and the Nile was very small, unless in the rainy season. Such details, we confess, invalidate with us the whole accounts so furnished; and Browne approached, in Darfur, very near to the track by which the Niger must have flowed, in order to reach the Nile. He moreover gives an account of the sources of this last river, as situated in the mountains of Donga; while all the other great rivers of that part of Africa are represented by him as flowing to the westward. Another hypo-

thesis, by which the Niger is supposed, after a long course through Central and Southern Africa, to pour itself into the Atlantic by the Congo, was originally suggested to Mr. Park by captain Maxwell, a retired slave-trader, and gave rise to the unfortunate expedition under captain Tuckey, the results of which we have noticed in our general article AFRICA. Major Peddie, who commanded one branch of it, fell a sacrifice to the climate before he had even approached the Niger; and captain Tuckey did not penetrate above 300 or 400 miles up the Congo, so that he could observe nothing material as to its derivation. We have also noticed in that article the account given by Sidi Hamet, a native merchant, to Riley. He described himself to have followed the course of the Niger till it took a south-east, and finally a south direction, which it continued to follow at the interior city of Wassanal; and that it finally took this direction to the sea. Bowditch, another victim to our ardor for African discovery, obtained, during his residence at Ashantee, some information that has of late been partially corroborated. The Niger, according to these accounts, after passing through the lake Dibble, separates near Timbuctoo into three branches. One, called the Gambaroo, flows E. N. E. through the countries of Houssa and Cassina, till it terminates in the great lake of Caudee or Chadee. Another, bearing the name of Joliba, flows northward to a country called Yahooodee, which carries on a great trade with Tombuctoo. The third, or main stream, under the name of Quolla, flows E. S. E. through Gauw, Zamfarra, Noofee, Bousa, and other countries, till, after a long course, it also separates. One branch rolls eastward, and, turning to the north, forms the Egyptian Nile; the other, flowing southward, and again separating, pours itself into the Southern Atlantic Ocean by several channels, of which the Congo is the chief.

We may now remind the reader of the researches of major Iaing in Soolima, and his confident opinion that he was pointed to the sources of the Niger in the Loma hill, not far from those of the Rokelle. After all he could only lay down those sources, according to the information he received, of an important stream which runs eastward, rising there (he did not visit them), i. e. in lat. 9° 25' N., and long. 9° 45' W. At its source, he says it is called Tembie; that he was told it runs due north to Kang Keng; where it takes an easterly course, and exchanges the name of Tembie for Ba Ba and Joli-Ba, which it retains to Sego, Jenne, and Timbuctoo. See AFRICA.

Such is a statement of the principal facts and opinions relating to this intricate subject, before the expedition of Messrs. Denham and Clapperton, in 1821. The writer in the Quarterly Review enabled us, in the article just referred to above, to anticipate the published account of the discoveries these enterprising travellers have effected; but his own opinions, No. 62., on the subject of there being in fact two streams that have been called the Niger, are so important, that we must here extract them.

He notices the difficulty of reconciling the notion, that the Joliba (the Niger of Park) and

the Quolla or Quorra, are the same river, and continues—"In the present charts we perceive the Joliba, on leaving the lake Debbi, parted by the island of Jinbala into two streams, which are made to reunite a little before they reach the meridian of Timbuctoo. We know of no positive information that this is the case. Mr. Dupuis learned from a Mahomedan sheik, who had formerly been a great trader and traveller, that the Joliba was a river quite distinct from Quorra, both of them issuing out of a sea or lake, which he sometimes called Bahr Gimbala, and at others Bahr Deby, or Zeby; but he does not mention their reunion. It is, however, to the eastward of the meridian of Timbuctoo that we have certain information of the two streams, somewhere about Nyffé, where a great lake, named in some charts the Bahr el Soudan, is placed, on the eastern side of which the two branches appear to issue. The authorities for the two streams are as follow:

In one of the several routes which Mr. Dupuis collected from Mussulmen at Comassie, and which he prints in the Arabic language, the traveller, in going from that city, first reaches the river Ghulbi, and, proceeding northerly for six days, says, 'There is a great sea or river (for bahr signifies either) the like of which is no where to be found; it is called Kourra (Quorra); and in one day from hence you will reach the city of Youri, which is a very great city'—which Youri, we know, is situated upon, and gives the name to, the Yeou. Now this agrees in a very remarkable manner with the account given by Abou Bouker (the native of Cashna, who was to have accompanied Belzoni to Timbuctoo), of his journey with some Coola merchants, from his native city to the Bight of Benin. He first crosses the Quorra (the Yeou), running towards the rising sun; five days afterwards, proceeding to the south, he arrives at the Ghulbi, a larger river running in the same direction, which he understood passed through Nyffé, and joined the former river somewhere towards Bornou. The man, who called himself a son of Hornemann, told major Denham that the Quorra of Nyffé went off to the southward, ran between two chains of mountains, passed Loggun, where it was called the Shary, and fell into the Lake Tsad; every part of which, with the exception of the first, has been confirmed. The young Fighi stated, that at Kabra the name of the river was Quolla, and that one of its branches passed Nyffé, and ran to the southward between mountains. And lastly, we observe in the route of a Jennie Moor, who had travelled into Egypt (procured at Comassie by Mr. Hutchinson), that after leaving Youri and Bousz, on the Quolla, he branches off to the south, and in that route the names of Nofee, (Nyffé) Atagara, Shary river, and Chadee lake (Tsad) come in succession.

'We know from our travellers,' adds this writer, 'that at the city of Youri, in Haoussa, the Quorra first changes its name to Yeou; and that on or near the banks of this river are situated, in succession, the cities or towns of Sockatoo, Cano, Murmur, Katagum, Old Birnie, Laree, and many others, not one of which occurs in the southern route of the Jennie traveller. We know also that the branch called the Yeou falls into

the Tsad at its northern, as the Shary does at its southern, extremity. The intelligent Burckhardt was well aware of the Yeou which Hornemann called Tsad, but he strongly questioned its identity with the Joliba, which he supposed to take a more southerly direction. Dupuis understood that, as far as the city of Youri, the name of the river is Quorra; but that the name of Joliba never occurs in this line. On the whole, we are of opinion, that two rivers, or two branches of the same river, cross northern Africa from west to east; that the upper branch is distinguished by the names of Quolla and Yeou, and the lower by those of Ghulbi and Shary; and that the name Joliba (which is neither more nor less than the Great River) ceases at an early part of its course. Major Denham, who was once incredulous that the Yeou could be the Niger, on account of its diminutive size, (which, in point of fact, is no objection), is now so satisfied that it is at least a branch of that river, that he sends a bottle of its water to his friend the consul of Tripoli, as a specimen of the true Niger water. He adds, 'I have a negro friend here, who has seen the river nearly the whole of its course.'

We shall venture further to transcribe his less established speculation as to the juncture of the Niger and the Nile. Having thus got the waters of the western side of Africa into the great lake of Bornou, into which they all flow in consequence of the general inclination or dip of the country from west to east, the next and most difficult question is, how to dispose of them; or, in other words, to ascertain whether this easterly inclination of the surface continues beyond the Tsad; for, from this point we have, as yet, no information, except that the Bahr el Abiad (whose source is unknown) flows gently from the westward into the Nile, which is of itself a strong fact in favor of the continuance of the general easterly slope of the country. That the waters do not stop in the Tsad is now as certain as that they are there collected; to suppose the contrary would involve an anomaly in nature, if not a physical impossibility. We are perfectly ready to grant that evaporation, from the extensive surface of the Tsad, might carry off all the water which is brought down into it by the two rivers above mentioned, and other tributary streams formed during the rainy season; but then we are also prepared to contend that, after a constant succession of evaporations for many thousand years, and a constant influx of the washings of a saline soil, the water at this day would necessarily be salt; as is the case with regard to several lakes between Mourzouk and Bornou, the salt of whose margins exhibits the appearance of snow, and whose waters are not less saline and bitter than those of the lake Asphaltites, or Dead Sea; but it is now beyond all question that the water of the Tsad is perfectly fresh; that is to say, as fresh as that of any of the rivers which fall into it. This lake must, therefore, necessarily, as we think, have an outlet.

Major Denham learnt from several intelligent Shua Arabs that a river runs from Wady to the south-east, and continues to flow in that direction till it joins the Bahr el Abiad: this is undoubt-

edly the Misselad, which Browne understood to run to the north-west,—the Arabs, as well as more intelligent people, reckoning the direction of the current of a river according to its bearing from the place from which they happen to look towards it at the time. No such river, nor any river running in that direction, was ever seen or heard of, yet, had it existed, it must have crossed various routes of caravans leading to Fezzan. The same Arabs assured the major that the Bahr el Abiad flows out of the Tsad, which they described as having, in the first part of its course, terrific eddies and whirlpools, drawing the waters among rocks, and into subterranean caverns, from whence, after a course of many miles, it rushes between two hills, and pursues its way eastward. This is certainly the common belief among the people of Bornou and its vicinity. When we couple these notices with the information received by the lamented Burckhardt, that the river to the eastward of the lake of Bornou, which passed to the southward of Darfoor, was named the Shary, we think that very little doubt can be entertained that the Joliba, the Quolla, the Shary, the Yeou, or, if we are so pleased to call it, the Niger of Africa, unite their waters in the great lake of Bornou, and finally terminate in the Abiad, which is in fact the Nile of Egypt, or at least its main branch, and without which that river would be dry for half the year. M. Linant saw the Azrek above the Abiad, when not ankle deep, and he too understood that the latter came from the westward out of a large lake. Another Frenchman also, of the name of Hey, it seems, has been 180 miles up this stream in a westerly direction, but no account of his journey has yet appeared.

Two points only are now wanting, in default of actual inspection, to determine the probability of the aforesaid conclusion—the height of the Tsad, and the height of the point of junction of the Bahr el Abiad with the Nile, above the level of the sea. The former, indeed, would be sufficient—and it has been stated, but without data, in one of Dr. Oudney's letters, to be about 1200 feet; that of the latter seems to have escaped the notice, or rather exceeded the means, of any traveller, Bruce excepted, who certainly has stated boldly the height of the plains of Sennaar; but on this subject he would better have consulted his character for science by being silent. We have seen nothing in the recent accounts of the fall of the Nile, which militates against the assumption of 1200 feet being sufficient to carry off the waters of the Tsad, and convey them to the Mediterranean; for if we suppose the distance from the eastern side of the lake to the mouth of the Abiad to be 1100 miles, and from thence to the mouth of the Nile about the same, we have 2200 miles with a fall of 1200 feet, or about seven inches per mile, which will be found as much as is necessary to produce that lazy current of the Abiad, which induced Bruce to call it a dead-flowing river. The Amazons is very far from being a dead-flowing river, and yet, according to M. de la Condamine, its descent is somewhat less than seven inches per mile; and major Rennel has stated, from experiment, that the Ganges has a descent across

the plains of Hindostan (1300 miles in extent from the feet of the mountains) of nine inches per mile, in a direct line; but that the slope of its channel, taken along its windings, is not more than four inches per mile; yet this descent, small as it is, gives to the river in the dry season, a current of three miles an hour. These facts may satisfy the most sceptical that, however they may dispute the probability, they have no grounds to deny the possibility, of the identity of the Niger and the Nile.

The publication of the papers of Messrs. Denham and Clapperton so far disturbs the scheme of our author, that we are now furnished from the unquestionable testimony of captain Clapperton, with a second Yeou, rising south of Kano, the capital of a province of this name in Soudan; and situate in 12° 19' N. lat., and 9° 20' E. long. This flows east into the Tsad lake, while the old river, which we have been accustomed to call the Niger, turns short at Timbuctoo, flows south-east to Nyffé, or to about 10° S. lat.; and, as Sultan Bello of Sackatoo informed our traveller, afterwards takes a southern course to the sea, which it reaches somewhere about the Bight of Benin. This is, therefore, a *third* Niger in the western part of Africa.

Captain Clapperton having greatly conciliated the good graces of the sultan of the Felatahs, at Sackatoo, and obtained his engagement that a new expedition from the Western coasts should be forwarded to the utmost of his power in its pursuits; this gentleman, we regret to add, was sent on a second exploratory journey into these regions, and died, according to the account of his servant Lander, at Sackatoo, of dysentery, 13th of April, 1827. Sultan Bello on this occasion seems to have been less courteous than before, and alleged the existence of a war between himself and the sheikh of Bornou as a reason for being unable to forward the expedition, or indeed to suffer it to proceed into that country. Our traveller, therefore, at the period of his death was waiting for permission to proceed to Timbuctoo. Thither, in the interim, government had despatched major Laing, by way of Tripoli, and he was afterwards massacred by the natives. His servant, Richard Lander, has since published an account of his travels. See SACKATOO, SOUDAN, and TIMBUCTOO.

NIG'GARD, *n. s. adj., & v. a.* } Goth. and
NIG'GARDISH, *adj.* } Swed. *nir-*
NIG'GARDLY, *adj. & adv.* } *gur*; Isl.
NIG'GARDLINESS, *n. s.* } *nuggur*;
NIG'GARDNESS. } Sans. *nigur*.

A mean fellow; a miser; a curmudgeon: sordid; avaricious: to niggard is to stint; supply meanly or sparingly: niggardish is having a disposition to meanness or avarice: the other words follow these senses.

Then let thy bed be turned from fine gravel to weeds or mud. Let some unjust niggards make wares to spoil thy beauty. *Sidney.*

I know your mind, and I will satisfy it; neither will I do it like a niggardly answerer, going no farther than the bounds of the question. *Id.*

All preparations, both for food and lodging, such

as would make one detest *niggardness*, it is so slutish a vice. *Id.*

Most free of question, but to our demands *Niggard* in his reply. *Shakspeare. Hamlet.*

The deep of night is crept upon our talk,
And nature must obey necessity:
Which we will *niggard* with a little rest.

Shakspeare.

I have long loved her, followed her, ingrossed opportunities to meet her; fe'd every slight occasion that could but *niggardly* give me sight of her.

Id. Merry Wives of Windsor.

Speaking much is a sign of vanity; for he that is lavish in his words, is a *niggard* in deed. *Raleigh.*

Thrifty and *niggardly* collations are not for princes. *Bp. Hall.*

Where the owner of the house will be bountiful, it is not for the steward to be *niggardly*. *Id.*

Serve him as a grudging master,
As a penurious *niggard* of his wealth. *Milton.*
One she found

With all the gifts of bounteous nature crowned,
Of gentle blood; but one whose *niggard* fate
Had set him far below her high estate. *Dryden.*

Love, a penurious god, very *niggardly* of his opportunities, must be watched like a hard-hearted treasurer. *Id.*

Why are we so *niggardly* to stop at one-fifth?
Why do we not raise it one full moiety, and double our money? *Locke.*

Niggardliness is not good husbandry, nor generosity profusion. *Addison's Spectator.*

Tiberius was noted for his *niggardly* temper; he used only to give to his attendants their diet.

Arbutnot on Coins.

Providence not *niggardly* but wise,
Here lavishly bestows, and there denies,
That by each others virtue we may rise.

Granville.

Be *niggards* of advice on no pretence;
For the worst avarice is that of sense. *Pope.*

NIGHT, *adj., adv., prep., & v. n.* } Sax. *nyht*;
NIGHTLY, *adv.* } Teut. *nacht*;
NIGHTNESS, *n. s.* } Goth. and

Swed. *na*. Near in time, place, or relation, of any kind; at no great distance from; to a place near; almost: to night is to approach; advance; draw near: nightly, nearly, within a little: nightness, nearness; proximity; contiguity.

And the pask of the Jewis was *nyghe*, and manye of the cuntrey wenten up to Jerusalem, before the pask, to halowe himself. *Wiclif. Jon. 11.*

His uncle or uncle's son, or any that is *nigh* of kin unto him of his family, may redeem him. *Lev. xxv. 49.*

Mordecai sent letters both *nigh* and far. *Esther.*
The figtree patteth out leaves, summer is *nigh*.

Matthew.

He was sick *nigh* unto death. *Philip ii. 27.*

He committed the protection of his son Asanes to two of his *nigh* kinsmen and assured friends. *Knolles.*

Now day is done, and night is *nighing* fast. *Hubbard.*

They shone

Stais distant, but *nigh* hand seemed other worlds. *Milton.*

He drew *nigh* and to me held
Even to my mouth, of that same fruit held part,
Which he had plucked. *Id. Paradise Lost.*

I will defer that anxious thought,
And death, by fear shall not be *nigher* brought. *Dryden.*

A man born blind, now adult, was taught by his touch to distinguish between a cube and a sphere of the same metal, and *nighly* of the same bigness. *Locke.*

The loud tumult shows the battle *nigh*.
Nigh this recess with terror they survey,
Where death maintains his dread tyrannic sway. *Garth.*

NIGHT, *n. s.*
NIGHT-BRAWLER, } Sax. *nyht*; Goth. *naht*; Teut. *nacht*;
NIGHT-CAP, } Dan. *nat*; Fr. *nuit*;
NIGHT-CROW, } Ital. *notte*; Spanish *noche*; Port. *noyte*;
NIGHT-DEW, } The natural time of
NIGHT-DOG, } darkness; time from
NIGHT-DRESS, } sun-set to sun-rise;
NIGHTED, *adj.* } hence end of life;
NIGHT-FARING, *n. s.* } death; time of ob-
NIGHT-FIRE, } scurity or darkness
NIGHTFLY, } of any kind; igno-
NIGHT-FOUNDERED, } rance; unintelligi-
NIGHT-GOWN, } bility; trouble: to-
NIGHT-HAG, } night is used adver-
NIGHTINGALE, } bially for this night:
NIGHTLY, *adv. & adj.* } a night-brawler is
NIGHTMAN, *n. s.* } one who makes dis-
NIGHTMARE, } turbance in the night:
NIGHT-PIECE, } nighted is darkened,
NIGHT-RAIL, } overtaken by night:
NIGHT-RAVEN, } nightfaring, travelling
NIGHT-ROBBER, } in the night: night-
NIGHT-RULE, } fire an ignis fatuus or
NIGHT-SHADE, } Will-a-wisp: night-
NIGHT-SHINING, *adj.* } foundered, lost or
NIGHT-SHRIEK, *n. s.* } distressed in the
NIGHT-TRIPPING, *adj.* } night: night-hag, a
NIGHT-WALK, *n. s.* } witch: night-man,
NIGHT-WALKER, } one who carries away
NIGHT-WARBLING, *adj.* } ordure by night:
NIGHT-WARD, } night-mare (from
NIGHT-WATCH, *n. s.* } night and Sax. *mana*, a nymph or sprite) a mor-
bid oppression in sleep attributed formerly to a night, sprite or goddess who tormented sleep: night-piece a picture drawn so as to be viewed by night, or by artificial as distinct from natural light: night-rail (night and Sax. *raegle*, an upper garment) a loose upper night-dress: night-rule, a tumult in the night. Such is the explanation of all these compounds that appear at all obscure in their meaning, or that are of unusual occurrence.

If any man wandre in the day, he hirteth not, for he seeth the light of this world. But, if he wandre in the *nyght*, he stumblith, for light is not in him. *Wiclif. Jon. ii.*

In the morning he shall devour the pry, and at *night* divide the spoil. *Gen. xlix. 27.*

There came men in hither *to-night* of the children of Israel, to search out the country. *Joshua.*

I remember thee upon my bed, and meditate on thee in the *night-watches*. *Psaln lxiii. 6.*

In the twilight, in the evening, in the black and dark *night*. *Prov. vii. 9.*

Men that hunt so, be pryv stealers, or *night-walkers*. *Ascham.*

The ill-fac't owl, death's dreadful messenger,
The hoarse *night-raven*, trump of doleful dreere. *Spenser.*

Highways should be fenced on both sides, whereby thieves and *night-robbers* might be more easily pursued and encountered. *Id.*

The duke of Cornwall, and Regan his dutchess,
will be here this night. *Shakspeare. King Lear.*

You unlace your reputation,
And spend your rich opinion for the name
Of a *night-brawler*. *Id. Othello.*
The rabblement hooted, and clapt their chopt
hands, and threw up their sweaty *night-caps*.

Shakspeare.
The owl shrieked at thy birth, an evil sign
The *night-crow* cried, a boding luckless time. *Id.*
When *night-dogs* run, all sorts of deer are chased.
Id.

It was great ignorance, Gloster's eyes being out,
To let him live : Edmund, I think, is gone,
In pity of his misery, to dispatch
His *nighted* life. *Id. King Lear.*

Why rather, sleep, liest thou in smoaky cribs,
And hushed with buzzing *night-flies* to thy slumber ;
Than in the perfumed chambers of the great,
And lulled with sounds of sweetest melody ?

Shakspeare.
Since his majesty went into the field,
have seen her rise from her bed, throw
Her *night-gown* upon her. *Id. Macbeth.*

Let all things suffer,
Ere we will eat our meal in fear, and sleep
In the affliction of those terrible dreams
That shake us *nightly*. *Id.*

Saint Withold footed thrice the would,
He met the *nightmare*, and her name he told ;
Bid her alight, and her toth plight. *Shakspeare.*

I pray his bad voice bode no mischief :
I had as lief have heard the *night-raven*,
Come what plague would have come after it. *Id.*
How now, mad sprite,

What *night-rule* now about this haunted grove ?
Id.

I have almost forgot the taste of fears :
The time has been my senses would have cooled
To hear a *night-shriek* ; and my fell of hair
Would at a dismal treatise rouse and stir,
As life were in't. *Id. Macbeth.*

Could it be proved,
That some *night-tripping* fairy had exchanged
In cradle cloths, our children where they lay,
Then would I have his Harry, and he mine.

Shakspeare.
Great mountains have a perception of the disposi-
tion of the air to tempests sooner than the valleys
below ; and therefore they say in Wales, when cer-
tain hills have their *night-caps* on, they mean mis-
chief. *Bacon's Natural History.*

Quiet *night*, that brings
Rest to the labourer, is the outlaw's day,
In which he rises early to do wrong,
And, when his work is ended, dares not sleep.

Massinger.
Foolish *night-fires*, women's and children's wishes,
Chases in arras, gilded emptiness :
These are the pleasures here. *Herbert.*

Let them sleep, let them sleep on,
Till this stormy *night* be gone,
And the eternal morrow dawn ;
Then the curtains will be drawn ;
And they awoken with that light,
Whose days shall never sleep in *night*. *Crashaw.*

I perceive my *night* hastening on apace : my sun
draws low : the shadows lengthen : vapours rise ;
and the air begins to darken. *Bp. Hall.*

None of these noctiluca, or *night-shining* bodies,
have been observed in any of the antient sepulchres.
Wilkins's Dædalus.

If in his *night-walk* he met with irregular scholars,
he took their names, and a promise to appear, unsent
for, next morning. *Walton's Life of Sanders.*

Thee, Sion ! and the flowery brooks beneath,
That wash thy hallowed feet, and warbling flow,
Nightly I visit. *Milton's Paradise Lost.*

Either some one like us *nightfounded* here,
Or else some neighbour woodman, or, at worst
Some roving robber calling to his fellows.

Milton.
Nor uglier follows the *nighthag*, when called
In secret, riding through the air, she comes
Lured with the smell of infant-blood, to dance
With Lapland witches. *Id. Paradise Lost.*

Now is the pleasant time,
The cool, the silent, save where silence yields
To the *night-warbling* bird. *Id.*
Their *night-ward* studies, wherewith they close the
day's work. *Id. on Education.*

Dire Tisiphone there keeps the ward,
Girt in her sanguine gown by *night* and day,
Observant of the souls that pass the downward way.
Dryden.

She closed her eyes in everlasting *night*. *Id.*
May the stars and shining moon attend
Your *nightly* sports, as you vouchsafe to tell -
What nymphs they were who mortal forms excel.

Id.
All things are hushed, as nature's self lay dead,
The mountains seem to nod their drowsy head ;
The little birds in dreams their songs repeat,
And sleeping flowers beneath the *night-dew* sweat ;
Even lust and envy sleep. *Id. Indian Emperor.*

Soon as the evening shades prevail
The moon takes up the wondrous tale
And *nightly* to the list'ning earth,
Repeats the story of her birth.

Addison's Spectator.
They have put me in a silk *night-gown*, and a gaudy
fool's cap. *Id. Guardian.*

He hung a great part of the wall with *night-pieces*,
that seemed to show themselves by the candles which
were lighted up ; and were so inflamed by the sun-
shine which fell upon them, that I could scarce for-
bear crying out fire. *Addison.*

An antiquary will scorn to mention a pinner or
night-rail ; but will talk as gravely as a father of the
church on the vitta and peplus. *Id. on Medals.*

Will-a-Wisp misleads *night-faring* clowns,
O'er hills, and sinking bogs, and pathless downs.
Gay.

The forerunners of an apoplexy are, dulness,
drowsiness, vertiges, tremblings, oppressions in
sleep, and *night-mares*. *Arbutnot.*

Nature and Nature's works lay hid in *night*.
Pope.

The fair ones feel such maladies as these,
When each new *night-dress* gives a new disease
Id.

To meagre muse-rid mope, adust and thin,
In a dun *night-gown* of his own loose skin. *Id.*
Soon as the flocks shook off the *nightly* dews,
Two swains, whom love kept wakeful and the muse,
Poured o'er the whit'ning vale their fleecy care.
Id.

How did the humbled swain detest
His prickly beard, and hairy breast !
His *night-cap*, bordered round with lace,
Could give no softness to his face.

Swift.
Life is but a day at most,
Sprung from *night*, in darkness lost ;
Hope not sunshine every hour,
Fear not clouds will always lower. *Burns.*

But this is sure—the hand of *Night*,
That kindles up the skies,
Gives him a modicum of light
Proportioned to his size. *Cowper.*

I passed the bound
Which God doth set to light and life and love,
Where darkness meets with day, where order meets
Disorder, dreadful waste, and wild; and down
The dark eternal, uncreated *night*
Ventured alone. *Pollok. Course of Time.*

NIGHT is that part of the natural day during which the sun is below the horizon. Night was originally divided by the Hebrews and other eastern nations into three parts or watches. The Romans, and after them the Jews, divided the night into four watches; the first began at sunset, and lasted till nine, according to our reckoning; the second lasted till midnight; the third till three A. M.; and the fourth ended at sunrise. The ancient Gauls, Anglo-Saxons, and Germans, divided their time, not by days, but by nights; and the people of Iceland and the Arabs still do the same. The length and shortness of night is according to the season of the year and position of the place; and the causes of this variety are now well known. See ASTRONOMY.

NIGHT ANGLING, a method of catching large and shy fish in the night time. Trouts and many other fish are naturally shy and fearful; they therefore prey in the night as the securest time. The method of taking them on this plan is as follows:—The tackle must be strong, and need not be so fine as for day-fishing, when every thing is seen; the hook must be baited with a large earth-worm, or a black snail, and thrown into the river; there must be no lead to the line, so that the bait may not sink, but be kept drawing along, upon or near the surface. Whatever trout is near the place will be brought thither by the motion of the water, and will seize the worm or snail. The angler will be alarmed by the noise which the fish makes in rising, and must give him line, and time to swallow the hook; then a slight touch secures him. The best and largest trouts bite thus in the night; and they mostly rise in the still and clear deeps. Sometimes, though there are fish about the place, they will not rise at the bait: in this case the angler must put on some lead to his line, and sink it to the bottom.

NIGHTINGALE, *n. s.* From NIGHT, and SAX. galan, to sing. A bird remarkable for its beautiful night-song; also a term of endearment.

He coude songs make and wel credite,
Juste and eke dance, and wel pourtraie and write;
Schote he loved, that by *nightergale*
He slep no more than doth the *nightingale*.
Chaucer. Cant. Tales.

I think,
The *nightingale*, if she should sing by day,
When every goose is cackling, would be thought
No better a musician than the wren. *Shakspeare.*
My nightingale!

We'll beat them to their beds. *Id.*
Although the wezon, throtle, and tongue, be the instruments of voice, and by their agitations concur in those delightful modulations, yet cannot we assign the cause unto any particular formation; and I perceive the *nightingale* hath some disadvantage in the tongue. *Browne.*

Thus the wise *nightingale* that leaves her home,
Pursuing constantly the cheerful spring,
To foreign groves does her old musick bring.
Waller.

A *nightingale* that all day long
Had cheered the village with his song,
Nor yet at eve his note suspended,
Nor yet when eventide was ended,
Began to feel, as well he might,
The keen demands of appetite. *Cowper.*

NIGHTINGALE, in ornithology, a species of motacilla. See MOTACILLA. Its eyes are remarkably large and piercing; and, though it is about equal in size to the redstart, it is longer in body, and more elegantly made. Mr. Hunter found by dissection that the muscles of the larynx are stronger in the nightingale than in any other bird of the same size. In England they frequent thick hedges and low coppices; and generally keep in the middle of the bush, so that they are very rarely seen. When the young ones first come abroad the old birds make a plaintive and jarring noise, with a sort of snapping as if in menace, pursuing the passengers along the hedge. They begin their song in the evening, and continue it the whole night. These vigils did not pass unnoticed by the ancients: the slumbers of these birds were proverbial. If the nightingale is kept in a cage it often begins to sing about the end of November, and continues its song more or less till June. Young canary birds, linnets, or sky-larks, are said to learn best the note of a nightingale.

NIGHTINGALE, VIRGINIAN, in ornithology, the common, but improper name of a bird of the gross-beaked kind, called by some authors coccothraustes Indica cristata. It is a little smaller than our blackbird; it has a black ring surrounding the eyes and nostrils; the beak is very large and thick, but not altogether so large as in the common gross-beak; and its head is ornamented with a very high and beautiful crest, which it moves about very frequently; it is all over of a very fine and lively red, but paler on the head and tail than elsewhere; it is brought from Virginia, and is much valued in England for its beauty and delicate singing; it is very fond of almonds.

NIGHTSHADE. See SOLANUM.

NIGHTSHADE, DEADLY. See BELLADONA.

NIGHT-WALKERS, in law, are such persons as sleep by day and walk by night, being oftentimes pilferers, or disturbers of the public peace. Constables are authorised by the common law to arrest night-walkers and suspicious persons, &c. One may be bound to good behaviour for being a night-walker; and common night-walkers, or haunters of bawdy-houses, are to be indicted before justices of peace, &c. But it is not held lawful for a constable, &c., to take up any woman as a night-walker on bare suspicion only of being of ill-fame, unless she be guilty of a breach of the peace, or some unlawful act, and found misdoing.

NIGHT-WALKERS, in medicine. See MEDICINE.

NIGIDIUS (Figulus Publius), one of the most learned men of ancient Rome, flourished at the same time with Cicero. He wrote on various subjects; but his pieces appeared so refined and difficult that they were not regarded. He assisted Cicero, with great prudence, in defeating Catiline's conspiracy, and did him many services in the time of his adversity. He ad-

hered to Pompey in opposition to Cæsar, which occasioned his exile, and he died in banishment. Cicero, who had always entertained the highest esteem for him, wrote a beautiful consolatory letter to him (the 13th of lib. 4, ad Familiares).

NIHIL'ITY, *n. s.* Fr. *nihilité*; Lat. *nihilum*. Nothingness; the state of being nothing.

Not being is considered as excluding all substance, and then all modes are also necessarily excluded; and this we call pure *nihility*, or mere nothing.

Watts.

NILE, the 'river of Egypt,' equally celebrated in ancient and modern history, as the chief source of the fertility of that country, is still imperfectly known in its earlier course. It seems to be formed by the union of three rivers: 1. the Tacazza, which descends from the northern side of the mountains of Abyssinia: 2. the Blue River (Bahr el Azrek), which from the same mountains descends into the plains of Sennaar, and is the river whose source was visited by Bruce, in about 8° N. The third is called the White River (Bahr el Abiad), which seems to have its rise in the Mountains of the Moon, in the kingdom of Dar-fur, and is probably the true Nile, to which the other two are only tributary. We have noticed the hypothesis of this branch being in fact a continuation of the **NIGER** under that article, which see. The most authentic information on this subject seems to be that collected by Mr. Browne at Darfur. The Bahr el Abiad was there described as formed by the conflux of numerous small streams descending from a lofty range of mountains called Donga, which appear to be the same that were called anciently the Mountains of the Moon. These sources are about 6° of N. lat., and from 25° to 27° of E. long. The general stream flows at first towards the east along the northern base of the mountains, but soon winds gradually to the north till that becomes its final direction. After passing the fifteenth parallel, this stream is joined by the Bahr el Azrek from Abyssinia. Bruce himself, who witnessed the junction of these streams, says the Abiad brings three times the quantity of water to the union that its rival stream conveys, and that its channel is always full, which is true only of the other river after the rains.

The Nile waters Kordofad and Sennaar. About 2° N. of the junction with the Azrek, it is joined by the Tacazze, and, after this, it forces its way through the Great Nubian desert. Here the banks are so high as to prevent any inundation, and the water that fertilises the country for a short distance, on each side, is raised from the stream by rude mechanical contrivances. Before it reaches the plains of Egypt, it forms two noted cataracts. These are occasioned by ledges of rock rising in the bed of the river, but in neither of them is the fall great. Mr. Legh (see our article **EGYPT**) lately visited the one, and Mr. Burckhardt the other; the grandeur of the effect appears to be chiefly produced by the disorder of the rocks, the desolate character of the general scene, and the absence of all cultivation.

On the above view of this river its course is about 2000 miles. The cataract at its entrance into Egypt, near Syene, is generally not above five or six feet fall; below this the greatest

breadth of the river is a mile, and its greatest velocity three miles an hour; in its ordinary state it is navigable for vessels of sixty tons to the cataract of Syene.

The river begins to rise at Cairo (see the article **EGYPT**) in June; and, it being observed that the heliacal rising of Sirius preceded a few mornings the rise of the Nile, this star thence received the popular appellation of the Dogstar, in allusion to the fidelity of the dog, who warns his master to remove his property from impending danger. It is at its height in October, the greatest rise being twenty-four feet. The waters begin to subside in the same month; and in December, being again returned to their bed, the fertile mud they have left on the low grounds is sown with grain. Where the stream expands into the Delta it was anciently also overflowed, and hence many of the towns are built on artificial elevations, but at present the soil is so much raised as to be generally above the inundations.

The Nile abounds in fish, particularly a species of salmon and eels (*muræna Romana*), and is celebrated for its crocodiles and hippopotami, which, however, are not met with below Assiut. Amongst the variety of water-fowl that frequent it is the turkey-goose (*anas nilotica*), whose flesh is esteemed. The Nile anciently emptied itself by seven mouths, of which six were navigable. The western, or Canopic branch, which passes by Aboukir, is now dry the greatest part of the year. The second, or Bolbitic branch, empties itself at Rosetta. It is two miles wide, but is crossed by a bar, on which is a very dangerous surf in strong north or west winds, leaving only a few shifting channels for the passage of the country vessels, named Germs or Scherms, from ten to sixty tons, and many of them are wrecked every year: the bar is besides dry in March and April. The depth, at ordinary times, is from four to six feet, but in the inundation, with the winds from the north, there are at times forty-one feet in the Boghaz, or channel. The third, or Sebetic branch, empties itself into Lake Bourlos. The fourth, or Phatnitic branch, is that of Damietta: it is, like that of Rosetta, crossed by a bar, that admits only small vessels. The fifth, or Mendesian branch, is lost in Lake Menzaleh, but its opening is at Dibeh. The sixth, or Tanitic, is the present Om-Faredje. The seventh, or Pelusiatic branch, is now entirely filled up, but its ancient course is thought to be visible, and is named El-Farame.

The ancients placed the overflowing of the Nile among the inexplicable wonders of nature. The people of those times were unacquainted with any other river that afforded a parallel, and exhausted their ingenuity in conjectures to explain the cause. It is, however, now fully ascertained to be the rains that fall so copiously from June to September in the northern part of the tropical regions. From these tracts the Nile is exclusively fed, and, the supplies being prodigiously increased at that period, the inundation of the low countries is a necessary consequence.

NILEUS, the second son of Codrus, the patriotic king of Attica, who, after the abolition of monarchy at Athens, led a colony of Ionians

to Asia, where he built Ephesus, Miletus, Prien, Colophon, Myus, Teos, Lebedos, Clazomenæ, &c. Paus. vii. c. 2.

NILL, *v. a.* From Sax. *nillan*, ne will. Not to will; to refuse; reject.

Certes, said he, I *nill* thine offered grace,
Ne to be made so happy do intend,
Another bliss before mine eyes I place,
Another happiness, another end. *Spenser.*

In all affections she *concurrerth* still;
If now, with man and wife to will and *nill*
The self-same things, a note of concord be,
I know no couple better can agree. *Ben Jonson.*

NILOMETER, or NILOSCOPE, an instrument used among the ancients to measure the height of the water of the Nile in its overflowings; anciently called Mikeas, or rather Mykeas, from *Μυκαω*, to roar, or make a hollow sound, alluding to the noise of the waters. The word Nilometer comes from *Νειλος*, Nile (and that from *νεα λυς*, new mud, or, as others have it, from *νω*, I flow, and *λυς*, mud), and *μετρον*, measure. The Greeks more ordinarily call it *Νειλοσκοπιον*. The nilometer is said, by several Arabian writers, to have been first set up for this purpose by Joseph, during his regency in Egypt: the measure of it was sixteen cubits, this being the height of the increase of the Nile, which was necessary to the fruitfulness of Egypt. In the late French king's library is an Arabic treatise on the nilometers, entitled *Neil fi alnal al Nal*; wherein are described all the overflowings of the Nile, from the first year of the Hegira to the 875th. Herodotus mentions a column erected in a point of the Delta, to serve as a nilometer; and there is still one of the same kind in a mosque of the same place. As all the riches of Egypt arise from the inundations of the Nile, the inhabitants used to supplicate them of Serapis; and committed the most execrable crimes, as actions of religion, to obtain his favor. This occasioned Constantine expressly to prohibit these sacrifices, &c., and to order the nilometer to be removed into the church; whereas, till that time, it had been in the temple of Serapis. Julian the apostate had it replaced in the temple, where it continued till the time of Theodosius the Great. On the night of St. John, when, by the falling of the dew, they perceive the rain-water from Ethiopia mixed with the Nile at Cairo, they begin to announce the elevation of the river, having then five pecks of water marked on the nilometer, and two unmarked for the sludge, of which they take no notice. Their first proclamation, supposing the Nile to have risen twelve digits, is twelve from six, or wants twelve digits to be six pecks. When it has risen three more, it is nine from six; and so on till the whole eighteen be filled, when all the land of Egypt is fit for cultivation. Several canals are then opened, which convey the water into the desert, and hinder any farther stagnation on the fields. There is indeed a great deal more water to come from Ethiopia; but, were the inundation suffered to go on, it would not drain soon enough to fit the land for tillage: and, to guard against this mischief, is the principal use of the nilometer, though the Turkish government makes it an engine of taxation. From time immemorial the Egyptians paid, as

tribute to the king, a certain proportion of the fruit of the ground; and this was anciently ascertained by the elevation of the water on the nilometer, and by the mensuration of the land actually overflowed. But the Saracen government, and afterwards the Turkish, taxed the people by the elevation alone of the water, without attending to its course over the country, or the extent of the land actually overflowed; and this tax is sometimes cruelly oppressive.

NIM, *v. a.* Teut. *nemen*; Belg. *numen*, to take. In cant language, to steal.

They'll question Mars, and by his look
Detect who 'twas that *nimmed* a cloak. *Hudibras.*

They could not keep themselves honest of their fingers, but would be *nimming* something or other for the love of thieving. *L'Estrange.*

NIM'BLE, *adj.* } Sax. *numil*, *numan*,
NIM'BLENESS, *n. s.* } ready, tractable.
NIM'BLEWITTED, *adj.* } Quick; speedy; active;
NIM'BLY, *adv.* } lively; nimble-witted,
ready in mind; apt or eager to speak: the adverb and noun substantive follow these senses.

The hounds were straight uncoupled, and ere long the stag thought it better to trust to the *nimbleness* of his feet, than to the slender fortification of his lodging. *Sidney.*

Himself shewing at one instant both steadiness and *nimbleness*. *Sidney.*

All things are therefore partakers of God; they are his offspring, his influence is in them, and the personal wisdom of God is for that very cause said to excel in *nimbleness* or agility, to pierce into all intellectual, pure and subtle spirits, to go through all, and to reach unto every thing. *Hooker.*

They being *nimble*-jointed than the rest,
And more industrious, gathered more store.

Spenser.

You *nimble* lightnings, dart your blinding flames
Into her scornful eyes. *Id. King Lear.*

You have dancing shoes
With *nimble* soles. *Id. Romeo and Juliet.*

We, lying still,
Are full of rest, defence and *nimbleness*.

Shakspeare.

He capers *nimble*ly in a lady's chamber,
To the lascivious playing of a lute. *Id.*

The air
*Nimble*ly and sweetly recommends itself. *Id.*

Sir Nicholas Bacon, when a certain *nimblewitted* counsellor at the bar, who was forward to speak, did interrupt him often, said unto him, There is a great difference betwixt you and me; a pain to me to speak, and a pain to you to hold your peace. *Bacon.*

Most legs can *nimble*ly run, though some be lame. *Davies.*

His off'ring soon propitious fire from heaven
Consumed with *nimble* glance and grateful steam;
The others not, for his was not sincere. *Milton.*

The liquor we poured from the crystals, and set it in a digesting furnace to evaporate more *nimble*ly.

Bryle.

Ovid ranged over all Parnassus with great *nimble*ness and agility; but, as he did not much care for the toil requisite to climb the upper part of the hill, he was generally roving about the bottom.

Addison's Guardian.

Through the mid seas the *nimble* pinnace sails,
Aloof from Crete before the northern gales. *Pope.*

The chameleon, who is said to feed upon nothing but air, has of all animals the *nimblest* tongue.

Swift.

NIMBUS, in antiquity, a circle observed on certain medals, around the heads of some emperors; answering to the circles of light drawn round the images of saints.

NIMEGUEN, or **NIMUEGEN**, an old town of Guelderland, situated on the Waal. It is fortified and not ill built, but has an irregular aspect from the river, the windows of one range of houses overlooking the chimneys of another, and the elevation from this spot being very abrupt. Among the public buildings worth attention are an old edifice, said to have been raised by the Romans, now forming a part of the fortifications; the old castle of Valkenof, built by Charlemagne; the town-house, and several of the churches; as well as the flying-bridge across the Waal. The Belvidere is a beautiful shady promenade, much resorted to on account of the extensive view which it commands. The town is celebrated for its pale ale, which is sent to almost every part of the Netherlands. In history it is known from the treaty concluded here in 1678. It was taken by the French in September 1794, after a severe action with the allies. Population 13,300. Fifty miles south-east of Amsterdam. Long. 5° 50' 51" E., lat. 51° 51' 20" N.

NIMES, or **NISMES**, Nemausus, a large and very ancient city, the chief place of the prefecture of the department of the Gard, having a royal court for that department, together with those of the Lozère and Vaucluse, an inferior court, a chamber of commerce, an agricultural society, an academy, a royal college, schools for drawing and chemistry, a medical society, and a bishop's see. It is a post-town, with 38,000 inhabitants. This city is situated in a delightful plain, at the foot of several hills, which command a fertile country, covered with the rich productions of agriculture, and surrounded with eminences crowned with fruit trees, vines, and olives. It is in general badly built, and the streets confined; but the suburbs present some straight and long streets; the boulevards are continually embellished with new buildings, and that part which reaches from the end of the canal of the Fountain to the Esplanade is very beautiful.

As a modern city Nimes contains nothing very remarkable; but, when we consider its antiquity, many remains of which are still extant, it is highly worthy of attention. Next to Rome, it has been said to offer to the antiquary more Roman monuments than any other city in the world; the square house, the amphitheatre, the cathedral, an ancient temple consecrated to Augustus, the fountain, the temple of Diana, and the Magnus tower, give us the noblest ideas of the state of the arts at the time of the erection of these monuments, while at the same time they excite our admiration of those who planned and directed them. Nimes was founded by the Phœceans of Ionia, who occupied it for nearly four centuries; it then passed into the hands of the Romans, and formed part of their empire for 500 years. In the fifth century of the Christian era it became by turns the prey of the Goths and the Vandals; in the sixth the Visigoths seized on it, and in the eighth it was ravaged by the Saracens. Afterwards the kings of Arragon,

becoming masters of it, surrendered it to St. Louis in 1258. Under the reign of Charles VI., in 1417, it fell into the possession of the English. Most of its inhabitants embraced Calvinism; but, after the revocation of the edict of Nantes, Louis XIV. caused their church to be demolished, and built a citadel on the ruins. For a long time after this it was the theatre of dreadful struggles on account of religion, and, in 1791 and 1815, of some bloody reactions; so that for fourteen centuries it was subject to the most dreadful scourges that can afflict a rich and populous city.

This was the native place of Jean Nicot, who, in 1559, introduced tobacco into France; of Jean Fabre, who piously devoted himself to the punishment of the galleys, in the room of his father, who had been surprised, while secretly worshipping God according to the reformed religion; of the naturalist Dorthey and Rabaud; St. Etienne, a learned man, and a deputy of the national convention, who was beheaded at Paris on the 5th of December 1793, aged fifty years. Manufactures are carried on here of cotton stockings, silk stockings and hats, coarse silk and fancy works, Madras shawls, silk and cotton goods, velvets, coarse cloths, printed cottons, furniture stuffs, pasteboards, brandy, and vinegar. There are also dye-houses, and tan-yards for chamois and other leathers. A considerable trade is carried on in these articles, as well as grocery, drugs, grain, essences, &c. It is the principal mart in the kingdom for silks. All parts of Europe are supplied from this place with medicinal plants, through the medium of rich mercantile houses, which purchase them of the peasant cultivators, and forward them to Amsterdam, Hamburg, and Lubec.

Among the modern public buildings may be mentioned the library, containing 10,000 volumes; the museum of natural history; the assize court, remarkable for its pillars supporting the front, and the rich vestibule dividing the halls of audience; the new assembly room; and the college church. The cathedral contains the tombs of Flechier and cardinal Bernis. The square-house, an ancient temple, erected by the emperor Adrian, was restored, by order of Louis XIV., in 1689, and again repaired in 1820. It is a rectangular building, seventy feet long by thirty-six broad, and of a height equal to its breadth, adorned with thirty fluted Corinthian columns, the chapters of which are the admiration of all connoisseurs. The amphitheatre is a majestic circus of the Doric order, of an elliptic form, 404 feet diameter in the outer circumference, and 317 in the inner. This fine work is constructed on 120 arcades of smooth stone, wrought with admirable art; thirty-two rows of seats rise one above the other in the interior, which it is supposed were capable of accommodating 17,000 spectators. The entrance is by four principal gates, facing the four points of the compass. The fountain and temple of Diana are fine remnants of antiquity, as also is the Magnus tower, an imposing ruin of a pyramidal form, 245 feet in circumference, with seven sides below and eight above, the destination of which is altogether uncertain; its ornaments are chiefly of the Doric

order. Nîmes is 106 miles south of Privas, forty-five west of Avignon, eighty-seven north-west of Marseilles, forty north-east of Montpellier, and 542 S. S. E. of Paris.

NIMIQUAS, a nation of South Africa, divided into two tribes, called by Vaillant the Greater and Less Nimiquas. The former inhabited a country extending from long. 15° 25' to 18° 25' E. of London, and between lat. 25° and 28° S.; the latter a district nearly in the same longitude with the above, but lying between lat. 28° 12' and 29° 36' S. They are now mixed with the other native tribes at the Cape, and own no distinct territory. See **CAPE** and **HOTTENTOTS**.

NIMROD, the sixth son of Cush. The sacred historian tells us, that 'Nimrod began to be a mighty one in the earth;' that he was 'a mighty hunter before the Lord,' even to a proverb; and that 'the beginning of his kingdom was Babel, and Erech, and Accad, and Calneh, in the land of Shinar.' Authors have taken a great deal of pains to find Nimrod in profane history. Some have imagined him to be the same with Belus, the founder of the Babylonish empire; others with Ninus, the first Assyrian monarch; some think he was Evechous, the first Chaldean king; and others perceive a great resemblance between him and Bacchus. Some Mahometan writers suppose him to have been Zohak, a Persian king of the first dynasty; others Cay Cans, the second king of the second race; and some of the Jews say he is the same with Amraphel, the king of Shinar, mentioned by Moses. Some of the rabbins pretend he was slain by Esau, whom they absurdly make his contemporary. There is a tradition that he was killed by the fall of the tower of Babel: others say that, as he led an army against Abraham, God sent a squadron of gnats, which destroyed most of them, and particularly Nimrod, whose brain was pierced by one of those insects.

NIMMO, Alexander, an eminent civil engineer, was born at Kircaldy, in Scotland, in 1783. He received the rudiments of his education at the College of St. Andrew's, and afterwards at that of Edinburgh, and was appointed tutor of Inverness school at the early age of nineteen years. His powerful mind could not find sufficient difficulties to encounter in the mere communication of rudimental literature, and being recommended by Mr. Telford to fix the county boundaries, for the survey of Scotland, he presented a report on the subject, which at once established that clearness of mind for which he was afterwards conspicuous. His survey of part of the bogs of Ireland is a masterpiece in its kind; and the pier of Dunmore, at Waterford, will not lose in a comparison with the break-water at Plymouth. (See *Dunmore*.) On the coasts of Ireland 100 piers have been erected, after his designs, by the Fishery Board, and the ballast office employed him to make a chart of the Irish coast. Ireland is much indebted to this able and honourable man. In Connaught particularly he opened districts, that may be called unexplored counties, by the construction of judicious lines of road; and in fine, he laid the foundation of the statistical notions of improvement which now prevail in that country, and the execution of

which lead, with every prospect of success, to the happiness of the people. A few years previous to his death his talents began to be fully appreciated in England, and his advice was adopted in the railway, canal, and some improvements that have since been completed in the vicinity of Liverpool and Manchester. Nimmo was not a practical man only, he possessed an extensive knowledge of modern languages, and to his profound mathematical attainments added an unlimited knowledge of elegant literature. Besides his contributions to various periodicals, he wrote *Inland Navigation* for Brewster's Cyclopædia; the article on bridges for the same work, in conjunction with his friend Telford, and that on carpentry, with Nicholson. He died in 1832.

NINCOMPOOP, *n. s.* A corruption of the Latin *non compos*. A fool; a trifle.

NINE , <i>adj.</i>	} Sax. <i>nigan</i> ; Goth. <i>niun</i> , <i>neun</i> ; Teut. <i>neune</i> ; Ital. <i>niu</i> ; Fr. <i>neuf</i> ; Span. <i>neuve</i> ; Lat. <i>novem</i> , à <i>novus</i> , according to Minsheu and Ainsworth, i.e. <i>ultimus</i> , because it is the last single figure for a number.
NINEFOLD , <i>adj.</i>	
NINEPENNY , <i>n. s.</i>	
NINEPINS ,	
NINESCORE , <i>adj.</i>	
NINETEEN ,	
NINETEENTH ,	
NINETIETH ,	
NINETY .	

NINE is the last of the radical numbers or characters, from the combination of which any definite number, however large, may be produced. 'It is observed by arithmeticians,' says Hume, 'that the products of 9 compose always either 9 or some smaller products of 9, if you add together all the characters of which any of the former products is composed: thus 18, 27, 36, which are products of 9, you make 9, by adding 1 to 8, 2 to 7, 3 to 6. Thus 369 is also a product of 9; and if you add 3, 6, and 9, you make 18, a less product of 9.'

NINEVEH, in ancient geography, the capital of Assyria, founded by Asshur, the son of Shem (Gen. x. 11). It was one of the most ancient, famous, and potent cities of the world. It is difficult exactly to fix the time of its foundation; but it could not be long after the building of Babel. It was situated upon the banks of the Tigris; and in the time of the prophet Jonah, who was sent thither under Jeroboam II. king of Israel, and, as Calmet thinks, under the reign of Pul, father of Sardanapalus, king of Assyria, Nineveh was a very great city, its circuit being three days' journey (Jonah iii. 3.). Diodorus Siculus, who has given us the dimensions of it, says it was 480 stadia in circumference, or forty-seven miles; and that it was surrounded with lofty walls and towers; the former being 200 feet in height, and so very broad that three chariots might drive on them a-breast; and the latter 200 feet in height, and 1500 in number. Strabo allows it to have been much greater than Babylon. At the time of Jonah's mission it was so populous that it was reckoned to contain more than 120,000 persons who could not distinguish their right hand from their left (Jonah iv. 11), which is generally explained of young children; so that it is computed that the inhabitants of Nineveh were then above 600,000 persons. Nineveh was taken by Arbaces and Belesis, A. M. 3257, in the reign of Sardanapalus, in the time

of Alaz king of Judah, and about the time of the foundation of Rome. It was taken a second time by Astyages and Nabopolassar, from Chynalydan king of Assyria, in 3378. After this time Nineveh no more recovered its former splendor. It was so entirely ruined in the time of Lucianus Samosatensis, who lived under the emperor Adrian, that no traces of it could be found, nor so much as the place where it stood. However it was rebuilt under the Persians, and destroyed again by the Saracens about the seventh century. Profane historians tell us that Ninus first founded Nineveh; but the Scripture assures us that it was Asshur (Gen. x. 11). The sacred authors make frequent mention of this city; and Nahum and Zephaniah foretold its ruin in a very particular and pathetic manner. It was several times besieged. The first attempt was made by Phraortes, the second king of the Medes; but it failed, and he perished in it, in his twenty-second year (See MEDIA). His son, Cyaxares I., though he also failed in two attempts, was more successful in a third, and, by the assistance of Nebuchadnezzar, took and demolished it. Modern travellers say that the ruins of ancient Nineveh may still be seen on the east banks of the Tigris, opposite to Mousul (See MOUSUL). This assertion, however, is far from probable; for every trace of it seems to have so totally disappeared, even so early as A. D. 627, that the vacant space afforded a spacious field for the celebrated battle between the emperor Heraclius and the Persians. There are few things in ancient history which have more puzzled the learned world than to determine the spot where this city stood. Mr. Ives says, that some imagine it stood near what is called Jonah's tomb: others, however, place it some hours' journey up the Tigris. These different opinions, however, seem perfectly reconcilable; for ancient Nineveh comprehended the whole ground which lies between these two ruined places. Mr. Ives adds, that 'what confirms this conjecture is, that much of this ground is now hilly, owing to the rubbish of the ancient buildings. There is one mount of 200 or 300 yards square, which stands some yards north-east of Jonah's tomb, whereon it appears a fortification once stood.'

NINGPO, a sea-port and city of the first rank in the province of Tchekiang, China. By the early Portuguese writers it is called Liampoo, and situated in a fertile plain, watered by numerous canals. The streets are narrow, and contracted by the penthouses over the shops, and the city, though five miles in circumference, does not contain any edifice of much importance. It lies at the mouth of a small river, which forms a good harbour, though there is a bar, which renders the entrance difficult. The place is much resorted to by the merchants of Fokien, as well as by the Chinese settled in Siam and Batavia, who come for the purpose of buying the silks. Its trade with Japan is also considerable.

NINIAN, or NINIA, a saint among the ancient Britons. He resided at or near a place called by Ptolemy Leucopibia, and by Bede Candida Rosa; but the English and Scots call it Whitborne. He is said to have been the first who converted the Scots and Picts to the Christian

faith, during the reign of Theodosius II. Bede says, he built a church dedicated to St. Martin, in a style unknown to the Britons of that time; and adds that during his time the Saxons held this province (Gallovidia, now Galloway); and that as, in consequence of the labors of this saint, the converts to Christianity increased, an episcopal see was established there. Dr. Henry says, 'he was a Briton of noble birth and excellent genius. After he had received as good an education at home as his own country could afford, he travelled for improvement, and spent several years at Rome, then the chief seat of learning, as well as of empire. Thence he returned into Britain, and spent his life in preaching the gospel in the most uncultivated parts of it, with equal zeal and success.' Buchanan says that in the reign of king Dongard, about A. D. 452, the Scottish clergy being infected with Pelagianism, St. Ninian was sent into Scotland by Palladius to oppose it, and became highly distinguished by his learning and zeal.—*Buch. lib. v. Stat. Acc. xviii. 385.*

NINNY, *n. s.* Span. *ninno*, a baby; Gr. *νεον*, a novice. A simpleton; a childish person.

What a pied *ninny's* this? *Shakspeare. Tempest.*

Have you no more manners than to rail at Hocus, that has saved that clod-pated, numskulled, *ninny*-hammer of yours from ruin, and all his family?

Arbutnot's John Bull.

The dean was so shabby, and looked like a *ninny*. That the captain supposed he was curate. *Swift.*

NINUS, the second king of Assyria, the son of Belus, or Asshur. He enlarged Nineveh and Babylon; conquered Zoroaster king of the Bactrians; married Semiramis of Ascalon; subdued almost all Asia; and died, after a glorious reign of fifty-two years, about 1150 B. C. See ASSYRIA.

NINYAS, the son of Ninus and Semiramis, and successor of the latter in the kingdom of Assyria, whom he is said to have put to death for her incestuous attachment to him. Little is recorded of his reign, but that he entrusted the care of his government to his favorites, and began that inglorious course of luxury and effeminacy, which, being pursued by his successors with increasing folly and extravagance, ended in the ruin of the empire under Sardanapalus.

NIO, anciently Ios, a small hilly island in the Greek Archipelago, west of Nymphio. It has a population of 4000 Greeks, who raise wine and cotton. Their principal property, however, consists in cattle. Nio, the chief place, is said to contain 3000 inhabitants. Tradition asserts that Homer died in this island, and there was formerly erected to him a monument here. Long. 5° 24' E., lat. 36° 46' N.

NIOBE, in fabulous history, the daughter of Tantalus, and wife of Amphion king of Thebes, by whom she had seven sons and seven daughters. Having become so proud of her children and high birth as to prefer herself before Latona, and to slight the sacrifices offered up by the Theban matrons to that goddess, Apollo and Diana, the children of Latona, resented this contempt. The former slew the male children, and the latter the female; upon which Niobe was struck dumb with grief, and remained without sensation. Ci-

zero is of opinion that on this account the poets feigned her to be turned into stone. The story of Niobe is beautifully related in Ovid's *Metamorphoses*, lib. vi. fab. 5. Among the relics of ancient statuary is preserved a beautiful statue of Niobe. With her right hand she clasps one of her little daughters, who throws herself into her bosom; which attitude equally expresses the ardent affection of the mother, and that natural confidence which children have in the protection of a parent. This is reckoned by Pliny one of the most beautiful works of antiquity; but he doubts to which of the Grecian artists he ought to ascribe it, whether to Scopas or Praxiteles. We have no certain information at what period this celebrated work was transported from Greece to Rome, nor where it was first erected. Flaminus Vacca says, that all these statues were found in his time, near the gate of St. John, and that they were afterwards placed by the grand duke Ferdinand in the gardens of the Villa de Medici, near Rome.

NIORT, a large and ancient post town, and principal place of a prefecture, in the arrondissement of the same name, department of the Two Sevres, France, containing 17,000 inhabitants, and having an inferior court, under the royal court of Poitiers; a chamber of arts and manufactures, an agricultural society, an athenæum of arts and sciences, a communal college, and a free drawing school. This town stands pleasantly, on the sides of two hills, at the foot of which flows the Sèvre, navigable in this part of its course. It is well built, and the streets airy; in the neighbourhood are some very fine scenes and delightful walks, much improved by art. From a little esplanade, constructed in the most elevated part of the town, there is a most beautiful prospect of the charming country watered by the Sèvre, the smiling meadows along its banks, and the numerous houses scattered over this fine and fertile valley.

Niort was taken by the English, who kept possession of it for eighteen years; it was protected by an ancient castle, formed of two large towers united by massive masonry. This castle was for a long time the residence of the governors of the town, and now serves for a prison. It is the native place of Fontanes, a distinguished literary man, and one of the purest writers of our day. There are here manufactures of chamois leather, doe-skin gloves, braces, sailors' shoes, saddle-bows, horn and wood combs, woollen stuffs, and paper. There are also woollen yarn factories, and considerable tan-yards. A considerable trade is carried on in Bourdeaux wines, grain, corn, measures, preserved angelica, vinegar, wool, hair, leather, and gloves. Here is a public library, containing 15,000 volumes, also a botanical garden and departmental nursery, a public garden, a town hall, the baths, the fine fountain of Viviers, &c. Niort is fifty-seven miles south-west of Poitiers, 150 north of Bourdeaux, and 324 south-west of Paris.

NIP, *v. n. & n. s.* } Belg. *nippen*; Teut. *nippen*; Goth. *nipa*. To
 NIPPER, *n. s.* } *kneipen*; Goth. *nipa*. To
 NIPPERS, *plu.* } pinch; injure by pinching in any way, as by the nails, teeth, frost, &c.;

hence to blast or destroy prematurely; to vex; irritate; taunt: a nipper is an obsolete word for a satirist: nippers are small pincers.

I am sharply taunted, yea, sometimes with pinches, *nips*, and bobs. *Ascham's Schoolmaster.*

Ready backbiters, sore *nippers*, and spiteful reporters privily of good men. *Ascham.*

Quick wits commonly be in desire new fangled; in purpose unconstant; bold with any person; busy in every matter; soothing such as be present, *nipping* any that is absent. *Id. Schoolmaster.*

And sharp remorse his heart did prick and *nip*,
 That drops of blood thence like a well did play. *Spenser.*

But the right gentle mind would bite his lip
 To hear the javel so good men to *nip*. *Hubberd*

This is the state of man: to-day he puts forth
 The tender leaves of hope, to-morrow blossoms,
 And bears his blushing honours thick upon him:
 The third day comes a frost, a killing frost;
 And when he thinks, good easy man, full surely
 His greatness is a-ripening, *nips* his root;
 And then he falls, as I do. *Shakespeare. Henry VIII.*

The air bites shrewdly, it is very cold,
 —It is a *nipping* and an eager air. *Id. Hamlet.*

What? this a sleeve? 'tis like a demi-cannon;
 What, up and down, calved like an apple-tart?
 Here's snip, and *nip*, and cut, and slash, and slash,
 Like to a censer in a barber's shop. *Shakespeare.*

In oranges and lemons, the *nipping* of their rind
 giveth out their smell more. *Bacon's Natural History.*

A flower doth spread and dye,
 Thou would'st extend me to some good,
 Before I were by frost's extremity *nipt* in the bud. *Herbert.*

His delivery now proves
 Abortive, as the first-born bloom of spring,
Nipt with the lagging rear of winter's frost. *Milton.*

The small shoots that extract the sap of the most
 leading branches must be *nipped* off. *Mortimer.*

No hasty fruits and too ambitious flowers,
 Scorning the midwifery of rip'ning showers,
 In spite of frosts, spring from the unwilling earth,
 But find a *nip* untimely as their birth. *Stepney.*

Had he not been *nipped* in the bud, he might have
 made a formidable figure in his own works among
 posterity. *Addison.*

From such encouragement it is easy to guess to
 what perfection I might have brought this work,
 had it not been *nipped* in the bud. *Arbuthnot's John Bull.*

NIPHON, a large island in the east of Asia, forming the greater part of the empire of Japan. It is 300 leagues long, but of very unequal breadth, i. e. from seventy to thirty leagues. Jeddo, the metropolis, is on the east side, and is said to be so extensive as to require twenty-one hours to walk round it; and the palace of the emperor, we are assured, is surrounded by a wall of stone, five leagues in circuit, with ditches and drawbridges. The houses are of wood, two stories, the ground floor towards the street being shops. The gulf, in which the city is situated, is so shallow that vessels cannot approach the town. See JAPAN.

NIPPLE, *n. s.* Sax. *nýpele*; Fr. from NIP. The teat, or dug; that which the sucking young take into and nip with their mouths.

The babe that milks me:
I would, while it was smiling in my face,
Have plucked my *nipple* from his boneless gums.

Shakspeare.

As his foe, went then suffised away,
Thoas *Ætolius* threw a dart, that did his pile convey
Above his *nipple*, through his lungs.

Chapman.

In creatures that nourish their young with milk,
are adapted the *nipples* of the breast to the mouth
and organs of suction.

Ray on the Creation.

In most other birds there is only one gland, in
which are divers little cells ending in two or three
larger cells, lying under the *nipple* of the oil bag.

Derham's Physico-Theology.

NIPPLE-WORT, in botany. See **LAPSANA**.

NISAN, a month of the Hebrew kalendar, answering to our March, and which sometimes takes from February to April, according to the course of the moon. It was the first month of the sacred year, after the Exodus from Egypt (Exod. xii. 2), and the seventh of the civil year. By Moses it is called Abib. The name Nisan was used only from the time of Ezra, and the return from the captivity of Babylon. On the 1st of this month the Jews fasted for the death of Aaron's sons. (Lev. x. 1, 2, 3). On the 10th was a fast for Miriam the sister of Moses; and every one provided himself with a lamb for the passover. On this day the Israelites passed over Jordan under the conduct of Joshua (iv. 19). On the 14th, in the evening, they sacrificed the paschal lamb; and on the 15th was held the solemn passover. (Exod. xii. 18, &c.) On the 16th they offered the sheaf of the ears of barley as the first-fruits of the harvest. (Levit. xxiii. 9, &c.) The 21st was the octave of the passover, which was solemnised with particular ceremonies. The 26th was a fast in memory of the death of Joshua. On this day they began their prayers to obtain the rains of the spring. On the 29th they commemorated the fall of the walls of Jericho.

NISCHNEI-NOVGOROD, or **NISHEGOROD**, an extensive government of European Russia, situated in the centre of the empire, to the east of that of Vladimir. It lies between 41° 45' and 46° 15' E. long., and 54° and 57° N. lat., and has an area of 20,400 square miles. Its surface is diversified only by slight undulations, and it has a productive soil, and temperate climate. Corn, hemp, and cattle, are the great agricultural objects; fishing in the rivers and lakes, and the manufactures, employ great numbers of the population. Leather, soap, tallow, and canvas, are not neglected. This province is traversed by the Vetluga, the Sura, the Wolga, and the Oka; the two last affording a direct communication by water, both with Moscow and St. Petersburg. This government is divided into eleven circles, and contains 1,000,000 inhabitants.

NISCHNEI-NOVGOROD, i. e. Lower-Novgorod, a large commercial town of European Russia, the see of an archbishop, and the capital of the government of this name, is situated at the confluence of the Oka and Wolga. The position at the junction of two large navigable rivers has caused its trade to be cultivated by a greater portion of the inhabitants than any other town of Russia, so that it has been called the inland harbour of the empire. The chief branch of traffic is that which it carries on with St. Petersburg in

Siberian wares; but it has also an extensive commerce in salt, corn, and provisions. Here is a great *dépôt* of salt-works; both of this and of the adjoining province of Perm. The dwelling-houses are generally of wood, but the shops and warehouses are more substantial. This town has a seminary and high school; manufactures of thread and ropes, with breweries and distilleries. Since 1816 the large fair of Makariev has been held here. Population 10,000. 250 miles E. N. E. of Moscow, and 540 E. S. E. of Petersburg.

NISHAPOUR, an ancient, and once celebrated city of Persia, in Korassan, known in the times of Alexander the Great, whose statue stood here until it was overthrown by the Arabs. It disputed with Meru Shah Jehan the character of being the capital of the Seljukian dynasty, during its reign over Persia; and, about the middle of the twelfth century, was taken by the Tartars, and so completely ruined, that, when the inhabitants returned, they could not distinguish their own houses. Hakani, the Persian poet of that period, has affectingly described the lamentable condition to which this unhappy place was reduced. It never recovered from this blow, but now contains above 15,000 inhabitants. Its ruins are said to cover a circuit of twenty-five miles. The most delicious fruits are produced in the neighbourhood. Thirty miles south of Mesched, and 230 north-east of Herat.

NISI PRIUS, *n. s.* In law, a judicial writ, which lieth in case where the inquest is panelled and returned before the justices of the bank; the one party or the other making petition to have this writ for the ease of the country. It is directed to the sheriff, commanding that he cause the men impanelled to come before the justices in the same county, for the determining of the cause there, except it be so difficult that it need great deliberation: in which case it is sent again to the bank. It is so called from the first words of the writ nisi apud talem locum prius venerint; whereby it appeareth that justices of assizes and justices of nisi prius differ. So that justices of nisi prius must be one of them before whom the cause is depending in the bench, with some other good men of the county associated to him.—*Cowell*.

NISIBIS, in ancient geography, a very ancient, noble, and strong city of Mesopotamia, in Mygdonia towards the Tigris, from which it is distant two days' journey. Some ascribe its origin to Nimrod, and suppose it to be the Achad of Moses. It was built by a colony of Macedonians, who call it Antiochia of Mygdonia.—*Plutarch*. Strabo says it was situated at the foot of Mount Masius. It was the Roman bulwark against the Parthians and Persians. It sustained three memorable sieges against the power of Sapor, A. D. 338, 346, and 350; but the emperor Jovianus, by an ignominious peace, delivered it up to the Persians, A. D. 363.

NISROCH, a god of the Assyrians. Sennacherib was killed by two of his sons, while paying his adoration to this god. (2 Kings xix. 37.) The septuagint calls him Mesrach; Josephus calls him Araskes. The Hebrew of Tobit, published by Munster, calls him Da_{50n}. Some

think the word signifies a dove; others understood by it an eagle, which has given occasion to an opinion, that Jupiter Belus, from whom the Assyrian kings pretended to be derived, was worshipped by them under the form of an eagle, and called Nisroch.

NISSOLIA, in botany, a genus of the decandria order, and diadelphia class of plants; natural order thirty-second, papilionacæ: CAL. quinque-dentate: CAPS. monospermons, and terminated by a ligulated wing.

NISUS, the son of Hyrtacus, a young Trojan, who accompanied Æneas to Italy. He was united in the closest friendship with Euryalus. They signalised themselves in the war with the Rutulians; went into their camp in the night and committed great slaughter; but, returning victorious, were perceived and killed by the Rutulians. Their friendship became proverbial.

NISUS, in fabulous history, a king of Megara, son of Mars, or of Pandion, whose life and success depended on a yellow lock of his hair not being cut. Minos, king of Crete, besieged Megara. Scylla the daughter of Nisus, being in love with Minos, cut off the fatal lock while her father was asleep. Megara was taken; Nisus despised the parricide, who threw herself in despair into the sea, and was changed into a lark, while Nisus was metamorphosed into a hawk. Hence the poets traced the antipathy of these birds.

NIT, *n. s.* } Sax. þnitru. The egg of
NITTY, *adj.* } a louse, or small animal: nitty,
NITTLY, *adv.* } abounding in nits.

One Bell was put to death at Tyburn for moving a new rebellion; he was a man *nittily* needy, and therefore adventurous. *Hayward.*

The whame, or burrel-fly, is vexatious to horses in summer, not by stinging them, but only by their bombylious noise, or tickling them in sticking their *nits*, or eggs, on the hair. *Derham.*

NITENCY, *n. s.* Lat. *nitentia*, or *nitior*. Lustre; brightness: also endeavour to spring or to expand, as light does.

The atoms of fire accelerate the motion of these particles; from which acceleration their spring, or endeavour outward, will be augmented: that is, those zones will have a strong *nitency* to fly wider open. *Boyle.*

We restore old pieces of dirty gold to a clean and *nitid* yellow, by putting them into fire and aqua fortis, which take off the adventitious filth. *Boyle on Colours.*

NITHISDALE, **NITHSDALE**, or **NIDDISDALE**, a large mountainous division of Dumfriesshire, lying west of Annandale, so named from the Nith. This country was formerly shaded with noble forests, which are now destroyed. At present nothing can be more naked, wild, and savage; yet it yields lead and silver. The mountains are covered with sheep and black cattle.

NITOCRIS, the wife of Evil-Merodach, and mother of Belshazzar, king of Babylon, was a woman of extraordinary abilities. After the death of Evil-Merodach she took the burden of all public affairs upon herself; and, while her son followed his pleasures, did all that could be done by human prudence to sustain the tottering empire. She perfected the works which Nebuchadnezzar had begun for the defence of Babylon;

raised strong fortifications on the side of the river, and caused a vault to be made under it, leading from the old palace to the new, twelve feet high, and fifteen wide. She likewise built a bridge across the Euphrates, and accomplished several other works, which were afterwards ascribed to Nebuchadnezzar. Philostratus, in describing this bridge, tells us, that it was built by a queen, who was a native of Media; whence we may conclude Nitocris to have been by birth a Mede.

NITRARIA, in botany, a genus of the monogynia order, and dodecandria class of plants: cor. pentapetalous, with the petals arched at the top: CAL. quinquefid; the stamina fifteen; the fruit a monospermous plum.

NITRE, } Fr. *nitre*; Lat. *nitrum*. The
NITROUS, *adj.* } vulgar name of the nitrate of
NITRY. } potash. See **NITRIC ACID**.
Nitrous and nitry signify impregnated with, or consisting of, nitre.

Earth and water, mingled by the heat of the sun, gather *nitrous* fatness more than either of them have severally. *Bacon.*

Some tumultuous cloud,
Instinct with fire and *nitre*, hurried him. *Milton.*
Some steep their seed, and some in cauldrons boil.
With vigorous *nitre* and with lees of oil. *Dryden.*
He to quench his draught so much inclined,
May snowy fields and *nitrous* pastures find,
Meet stores of cold so greedily pursued,
And be refreshed with never-wasting food. *Blackmore.*

Winter my theme confines; whose *nitry* wind
Shall crust the slabby mire, and kennels bind. *Gay.*

NITRE. See **CHEMISTRY** and **NITRIC ACID**.

NITRIA, a famous desert of Egypt, thirty-seven miles long, bounded on the north by the Mediterranean, east by the Nile, south by the desert of Seta, and west by St. Hilarion. It had formerly a great number of monasteries; now reduced to four. Its name is derived from a salt lake, from which is obtained the Natron of the ancients.

NITRIC ACID, in chemistry, one of the most powerful acids known, is formed by a combination of the two constituent elements of the atmospheric air, viz. nitrogen and oxygen, in a peculiar proportion to each other. If these gases be mixed, in the proportion of 70.5 oxygen to 29.5 nitrogen, in a glass tube about a line in diameter, and a series of electric shocks be passed through them for some hours, nitric acid will be formed; or, if a solution of potash be present with them, nitrate of potash will be obtained. For practical purposes it is, however, best obtained from the nitrate of potash, by means of sulphuric acid.

Three parts of pure nitre, coarsely powdered, are to be put into a glass retort, and two parts of strong sulphuric acid cautiously added. Join to the retort a tubulated receiver of large capacity, with an adopter interposed, and lute the junctures with glazier's putty. In the tubulure fix a glass tube, terminating in another very large receiver, in which is a small quantity of water. Apply heat to the retort by means of a sand bath. The first product that passes into the receiver is generally red and fuming; but the appearances gradually diminish, till the acid comes

over pale, and even colorless, if the materials used were clean. After this it again becomes more and more red and fuming, till the end of the operation; and the whole mingled together will be of a yellow or orange color.

Empty the receiver, and again replace it. Then introduce by a small funnel, very cautiously, one part of boiling water in a slender stream, and continue the distillation. A small quantity of a weaker acid will thus be obtained, which can be kept apart. The first will have a specific gravity of about 1.500, if the heat have been properly regulated, and if the receiver was refrigerated by cold water or ice. Acid of that density, amounting to two-thirds of the weight of the nitre, may thus be procured. But commonly the heat is raised too high, whence more or less of the acid is decomposed, and its proportion of water, uniting to the remainder, reduces its strength. It is not profitable to use a smaller proportion of sulphuric acid, when a concentrated nitric is required. But when only a dilute acid, called in commerce aquafortis, is required, then less sulphuric acid will suffice, provided a portion of water be added. 100 parts of good nitre, sixty of strong sulphuric acid, and twenty of water, form economical proportions.

In the large way, and for the purposes of the arts, extremely thick cast-iron or earthen retorts are employed, to which an earthen head is adapted, and connected with a range of proper condensers. The strength of the acid too is varied, by putting more or less water in the receivers. The nitric acid thus made generally contains sulphuric acid, and also muriatic, from the impurity of the nitrate employed. If the former a solution of nitrate of barytes will occasion a white precipitate; if the latter, nitrate of silver will render it milky. The sulphuric acid may be separated by a second distillation from very pure nitre, equal in weight to an eighth of that originally employed; or by precipitating with nitrate of barytes, decanting the clear liquid, and distilling it. The muriatic acid may be separated by proceeding in the same way with nitrate of silver, or with litharge, decanting the clear liquid, and redistilling it, leaving an eighth or tenth part in the retort.

The vessels should be made to fit tight by grinding, as any lute is liable to contaminate the product.

As this acid still holds in solution more or less nitrous gas, it is not in fact nitric acid, but a kind of nitrous; it is therefore necessary to put it into a retort, to which a receiver is added, the two vessels not being luted, and to apply a very gentle heat for several hours, changing the receiver as soon as it is filled with red vapors. The nitrous gas will thus be expelled, and the nitric acid will remain in the retort as limpid and colorless as water. It should be kept in a bottle secluded from the light, otherwise it will lose part of its oxygen.

What remains in the retort is a bisulphate of potash, from which the superfluous acid may be expelled by a pretty strong heat, and the residuum, being dissolved and crystallised, will be sulphate of potash.

As nitric acid in a fluid state is always mixed with water, different attempts have been made

to ascertain its strength, or the quantity of reacid contained in it. Mr. Kirwan supposed that the nitrate of soda contained the pure acid undiluted with water, and thus calculated its strength from the quantity requisite to saturate a given portion of soda. Sir H. Davy more recently took the acid in the form of gas as the standard, and found how much of this is contained in an acid of a given specific gravity in the liquid state. See CHEMISTRY, Index.

The following is a Table of Nitric Acid, given in Dr. Ure's valuable Dictionary of Chemistry, as the result of his own experiments:—

Specific Gravity.	Liq. Acid in 100.	Dry acid in 100.	Specific Gravity.	Liq. Acid in 100.	Dry acid in 100.
1.5000	100	79.700	1.2947	50	39.850
1.4980	99	78.903	1.2887	49	39.053
1.4960	98	78.106	1.2826	48	38.256
1.4940	97	77.309	1.2765	47	37.459
1.4910	96	76.512	1.2705	46	36.662
1.4880	95	75.715	1.2644	45	35.865
1.4850	94	74.918	1.2583	44	35.068
1.4820	93	74.121	1.2523	43	34.271
1.4790	92	73.324	1.2462	42	33.474
1.4760	91	72.527	1.2402	41	32.677
1.4730	90	71.730	1.2341	40	31.880
1.4700	89	70.933	1.2277	39	31.083
1.4670	88	70.136	1.2212	38	30.286
1.4640	87	69.339	1.2148	37	29.489
1.4600	86	68.542	1.2084	36	28.692
1.4570	85	67.745	1.2019	35	27.895
1.4530	84	66.948	1.1958	34	27.098
1.4500	83	66.155	1.1895	33	26.301
1.4460	82	65.354	1.1833	32	25.504
1.4424	81	64.557	1.1770	31	24.707
1.4385	80	63.760	1.1709	30	23.900
1.4346	79	62.963	1.1648	29	23.113
1.4306	78	62.166	1.1587	28	22.316
1.4269	77	61.369	1.1526	27	21.519
1.4228	76	60.572	1.1465	26	20.722
1.4189	75	59.775	1.1403	25	19.925
1.4147	74	58.978	1.1345	24	19.128
1.4107	73	58.181	1.1286	23	18.331
1.4065	72	57.384	1.1227	22	17.534
1.4023	71	56.587	1.1168	21	16.737
1.3978	70	55.790	1.1109	20	15.940
1.3945	69	54.993	1.1051	19	15.143
1.3882	68	54.196	1.0993	18	14.346
1.3833	67	53.399	1.0935	17	13.549
1.3783	66	52.602	1.0878	16	12.752
1.3732	65	51.805	1.0821	15	11.955
1.3681	64	51.008	1.0764	14	11.158
1.3630	63	50.211	1.0708	13	10.361
1.3579	62	49.414	1.0651	12	9.564
1.3529	61	48.617	1.0595	11	8.767
1.3477	60	47.820	1.0540	10	7.970
1.3427	59	47.023	1.0485	9	7.173
1.3376	58	46.226	1.0430	8	6.376
1.3323	57	45.429	1.0375	7	5.579
1.3270	56	44.632	1.0320	6	4.782
1.3216	55	43.835	1.0267	5	3.985
1.3163	54	43.038	1.0212	4	3.188
1.3110	53	42.241	1.0159	3	2.391
1.3056	52	41.444	1.0106	2	1.594
1.3001	51	40.647	1.0053	1	0.797

This acid is eminently corrosive, sour, and acid, whence its old name of aquafortis, now commonly applied to the yellow fuming nitrous acid. If introduced into the stomach it proves a deadly poison, and destroys the skin when in a concentrated state. It is often contaminated, through negligence or fraud in the manufacturer, with sulphuric and muriatic acids. Nitrate of lead detects both, or nitrate of barytes may be employed to determine the quantity of sulphuric acid, and nitrate of silver that of the muriatic. The latter proceeds from the crude nitre usually containing a quantity of common salt.

When it is passed through a red-hot porcelain tube, it is resolved into oxygen and nitrogen, in the proportion above stated. It retains its oxygen with little force, so that it is decomposed by all combustible bodies. Brought into contact with hydrogen gas at a high temperature a violent detonation ensues; so that this must not be done without great caution. It inflames essential oils, as those of turpentine and cloves, when suddenly poured on them; but, to perform this experiment with safety, the acid must be poured out of a bottle tied to the end of a long stick, otherwise the operator's face and eyes will be greatly endangered. If it be poured on perfectly dry charcoal powder, it excites combustion, with the emission of copious fumes. By boiling it with sulphur it is decomposed, and its oxygen, uniting with the sulphur, forms sulphuric acid. Chemists in general agree that it acts very powerfully on almost all the metals; but Baumé has asserted, that it will not dissolve tin, and Dr. Woodhouse of Pennsylvania affirms, that in a highly concentrated and pure state it acts not at all on the silver, copper, or tin, though, with the addition of a little water, its action on them is very powerful.

The nitric acid is of considerable use in the arts. It is employed for etching on copper; as a solvent of tin to form with that metal a mordant for some of the finest dyes; in metallurgy and assaying; in various chemical processes, on account of the facility with which it parts with oxygen and dissolves metals; in medicine as a tonic, and as a substitute for mercurial preparations in syphilis and affections of the liver, as also in form of vapor to destroy contagion. For the purposes of the arts it is commonly used in a diluted state, and contaminated with the sulphuric and muriatic acids, by the name of aquafortis. This is generally prepared by mixing common nitre with an equal weight of sulphate of iron, and half its weight of the same sulphate calcined, and distilling the mixture; or by mixing nitre with twice its weight of dry powdered clay, and distilling in a reverberatory furnace. Two kinds are found in the shops, one called double aquafortis, which is about half the strength of nitric acid; the other simply aquafortis which is half the strength of the double.

A compound made by mixing two parts of the nitric acid with one of muriatic, known formerly by the name of aqua regia, and now by that of nitro-muriatic acid, has the property of dissolving gold and platina. On mixing the two acids heat is given out, an effervescence takes place, and the mixture acquires an orange color. This

is likewise made by adding gradually to an ounce of powdered muriate of ammonia four ounces of double aquafortis, and keeping the mixture in a sand heat till the salt is dissolved; taking care to avoid the fumes, as the vessel must be left open; or by distilling nitric acid with an equal weight, or rather more, of common salt.

On this subject we are indebted to Sir H. Davy for some excellent observations, published by him in the first volume of the *Journal of Science*. If strong nitrous acid, saturated with nitrous gas, be mixed with a saturated solution of muriatic acid gas, no other effect is produced than might be expected from the action of nitrous acid of the same strength on an equal quantity of water; and the mixed acid so formed has no power of action on gold or platina. Again, if muriatic acid gas, and nitrous gas, in equal volumes, be mixed together over mercury, and half a volume of oxygen be added, the immediate condensation will be no more than might be expected from the formation of nitrous acid gas. And when this is decomposed, or absorbed by the mercury, the muriatic acid gas is found unaltered, mixed with a certain portion of nitrous gas.

It appears then that nitrous acid, and muriatic acid gas, have no chemical action on each other. If colorless nitric acid and muriatic acid of commerce be mixed together, the mixture immediately becomes yellow, and gains the power of dissolving gold and platinum. If it be gently heated, pure chlorine arises from it, and the color becomes deeper. If the heat be longer continued, chlorine still rises, but mixed with nitrous acid gas. When the process has been very long continued till the color becomes very deep, no more chlorine can be procured, and it loses its power of acting upon platinum and gold. It is now nitrous and muriatic acids. It appears then from these observations, which have been very often repeated, that nitro-muriatic acid owes its peculiar properties to a mutual decomposition of the nitric and muriatic acids; and that water, chlorine, and nitrous acid gas, are the results. Though nitrous gas and chlorine have no action on each other when perfectly dry, yet if water be present there is an immediate decomposition, and nitrous acid and muriatic acid are formed. 118 parts of strong liquid nitric acid being decomposed in this case, yield sixty-seven of chlorine. Aqua regia does not oxidise gold and platina. It merely causes their combination with chlorine.

A bath made of nitro-muriatic acid, diluted so much as to taste no sourer than vinegar, or of such a strength as to prick the skin a little, after being exposed to it for twenty minutes or half an hour, has been introduced by Dr. Scott of Bombay as a remedy in chronic syphilis, a variety of ulcers and diseases of the skin, chronic hepatitis, bilious dispositions, general debility, and languor. He considers every trial as quite inconclusive where a pyalism, some affection of the gums, or some very evident constitutional effect, has not arisen from it. The internal use of the same acid has been recommended to be conjoined with that of the partial or general bath.

With the different bases the nitric acid forms nitrates.

The nitrate of barytes, when perfectly pure, is in regular octahedral crystals, though it is sometimes obtained in small shining scales. It may be prepared by uniting barytes directly with nitric acid, or by decomposing the carbonate or sulphuret of barytes with this acid. Exposed to heat it decrepitates, and at length gives out its acid, which is decomposed; but, if the heat be urged too far, the barytes is apt to vitrify with the earth of the crucible. It is soluble in twelve parts of cold, and three or four of boiling water. It is said to exist in some mineral waters. It consists of 6.75 acid + 9.75 base.

The nitrate of potash is the salt well known by the name of nitre or saltpetre. It is found ready formed in the East Indies, in Spain, in the kingdom of Naples, and elsewhere, in considerable quantities; but nitrate of lime is still more abundant. Far the greater part of the nitrate made use of is produced by a combination of circumstances which tend to compose and condense nitric acid. This acid appears to be produced in all situations where animal matters are completely decomposed with access of air, and of proper substances with which it can readily combine. Grounds frequently trodden by cattle, and impregnated with their excrements, or the walls of inhabited places, where putrid animal vapors abound, such as slaughter-houses, drains, or the like, afford nitre by long exposure to the air. Artificial nitre beds are made by an attention to the circumstances in which this salt is produced by nature. Dry ditches are dug, and covered with sheds, open at the sides, to keep off the rain: these are filled with animal substances—such as dung, or other excrements, with the remains of vegetables, and old mortar, or other loose calcareous earth; this substance being found to be the best and most convenient receptacle for the acid to combine with. Occasional watering, and turning up from time to time, are necessary to accelerate the process, and increase the surfaces to which the air may apply; but too much moisture is hurtful. When a certain portion of nitrate is formed, the process appears to go on more quickly; but a certain quantity stops it altogether, and after this cessation the materials will go on to furnish more, if what is formed be extracted by lixiviation. After a succession of many months, more or less, according to the management of the operation, in which the action of a regular current of fresh air is of the greatest importance, nitre is found in the mass. If the beds contained much vegetable matter, a considerable portion of the nitrous salt will be common saltpetre; but if otherwise, the acid will, for the most part, be combined with the calcareous earth. It consists of 6.75 acid + 6 potash.

To extract the saltpetre from the mass of earthy matter, a number of large casks are prepared, with a cock at the bottom of each, and a quantity of straw within, to prevent its being stopped up. Into these the matter is put, together with wood-ashes, either strewed at top, or added during the filling. Boiling water is then poured on, and suffered to stand for some time; after which it is drawn off, and other water added in the same manner, as long as any saline matter can be thus extracted. The weak brine

is heated, and passed through other tubs, until it becomes of considerable strength. It is then carried to the boiler, and contains nitre and other salts; the chief of which is common culinary salt, and sometimes muriate of magnesia. It is the property of nitre to be much more soluble in hot than cold water; but common salt is very nearly as soluble in cold as in hot water. Whenever, therefore, the evaporation is carried by boiling to a certain point, much of the common salt will fall to the bottom, for want of water to hold it in solution, though the nitre will remain suspended by virtue of the heat. The common salt thus separated is taken out with a perforated ladle, and a small quantity of the fluid is cooled, from time to time, that its concentration may be known by the nitre which crystallises in it. When the fluid is sufficiently evaporated, it is taken out and cooled, and great part of the nitre separates in crystals; while the remaining common salt continues dissolved, because equally soluble in cold and in hot water. Subsequent evaporation of the residue will separate more nitre in the same manner. By the suggestion of Lavoisier, a much simpler plan was adopted; reducing the crude nitre to powder, and washing it twice with water.

This nitre, which is called nitre of the first boiling, contains some common salt; from which it may be purified by solution in a small quantity of water, and subsequent evaporation; for the crystals thus obtained are much less contaminated with common salt than before; because the proportion of water is so much larger, with respect to the small quantity contained by the nitre, that very little of it will crystallise. For nice purposes, the solution and crystallisation of nitre are repeated four times. The crystals of nitre are usually of the form of six-sided flattened prisms, with dihedral summits. Its taste is penetrating; but the cold produced by placing the salt to dissolve in the mouth is such as to predominate over the real taste at first. Seven parts of water dissolve two of nitre, at the temperature of 60°; but boiling water dissolves its own weight. 100 parts of alcohol, at a heat of 176°, dissolve only 2.9.

On being exposed to a gentle heat, nitre fuses; and in this state being poured into moulds, so as to form little round cakes, or balls, it is called sal prunella, or crystal mineral. This at least is the way in which this salt is now usually prepared, conformably to the directions of Boerhaave; though in most dispensatories a twenty-fourth part of sulphur was directed to be deflagrated on the nitre before it was poured out. This salt should not be left on the fire after it has entered into fusion, otherwise it will be converted into a nitrate of potash. If the heat be increased to redness, the acid itself is decomposed, and a considerable quantity of tolerably pure oxygen gas is evolved, succeeded by nitrogen.

This salt powerfully promotes the combustion of inflammable substances. Two or three parts mixed with one of charcoal, and set on fire, burn rapidly; azote and carbonic acid gas are given out, and a small portion of the latter is retained by the alkaline residuum, which was formerly called clyssus of nitre. Three parts of nitre, two

of subcarbonate of potash, and one of sulphur, mixed together in a warm mortar, form the fulminating powder; a small quantity of which, laid on a fire-shovel, and held over the fire till it begins to melt, explodes with a loud sharp noise. Mixed with sulphur and charcoal it forms gunpowder. See GUNPOWDER.

Three parts of nitre, one of sulphur, and one of fine saw-dust, well mixed, constitute what is called the powder of fusion. If a bit of base copper be folded up and covered with this powder in a walnut-shell, and the powder be set on fire with a lighted paper, it will detonate rapidly, and fuse the metal into a globule of sulphuret without burning the shell.

If nitrate of potash be heated in a retort with half its weight of solid phosphoric or boracic acid, as soon as this acid begins to enter into fusion it combines with the potash, and the nitric acid is expelled, accompanied with a small portion of oxygen gas and nitric oxide.

Silex, alumina, and barytes, decompose this salt in a high temperature by uniting with its base. The alumina will effect this even after it has been made into pottery.

The uses of nitre are various. Beside those already indicated, it enters into the composition of fluxes, and is extensively employed in metallurgy; it serves to promote the combustion of sulphur in fabricating its acid; it is used in the art of dyeing; it is added to common salt for preserving meat, to which it gives a red hue; it is an ingredient in some frigorific mixtures; and it is prescribed in medicine, as cooling, febrifuge, and diuretic; and some have recommended it mixed with vinegar as a very powerful remedy for the sea scurvy.

Nitrate of soda, formerly called cubic or quadrangular nitre, approaches in its properties to the nitrate of potash; but differs from it in being somewhat more soluble in cold water, though less in hot, which takes up little more than its own weight; in being inclined to attract moisture from the atmosphere; and in crystallising in rhombs, or rhomboidal prisms. It may be prepared by saturating soda with the nitric acid; by precipitating nitric solutions of the metals, or of the earths, except barytes, by soda; by lixiviating and crystallising the residuum of common salt distilled with three-fourths its weight of nitric acid; or by saturating the mother waters of nitre with soda instead of potash.

This salt has been considered as useless; but professor Proust says that five parts of it, with one of charcoal and one of sulphur, will burn three times as long as common powder, so as to form an economical composition for fire-works. It consists of 6.75 acid + 4 soda.

Nitrate of strontian may be obtained in the same manner as that of barytes, with which it agrees in the shape of its crystals, and most of its properties. It is much more soluble, however, requiring but four or five parts of water according to Vauquelin, and only an equal weight according to Mr. Henry. Boiling water dissolves nearly twice as much as cold. Applied to the wick of a candle, or added to burning alcohol, it gives a deep red color to the flame. On this account it may be useful, perhaps, in the art of py-

rotechny. It consists of 6.75 acid + 6.5 strontites.

Nitrate of lime, the calcareous nitre of older writers, abounds in the mortar of old buildings, particularly those that have been much exposed to animal effluvia, or processes in which azote is set free. Hence it abounds in nitre beds, as was observed when treating of the nitrate of potash. It may also be prepared artificially, by pouring dilute nitric acid on carbonate of lime. If the solution be boiled down to a syrupy consistence, and exposed in a cool place, it crystallises in long prisms, resembling bundles of needles diverging from a centre. These are soluble, according to Henry, in an equal weight of boiling water, and twice their weight of cold; soon deliquesce on exposure to the air, and are decomposed at a red heat. Fourcroy says that cold water dissolves four times its weight, and that its own water of crystallisation is sufficient to dissolve it at a boiling heat. It is likewise soluble in less than its weight of alcohol. By evaporating the aqueous solution to dryness, continuing the heat till the nitrate fuses, keeping it in this state five or ten minutes, and then pouring it into an iron pot previously heated, we obtain Baldwin's phosphorus. This, which is perhaps more properly nitrate of lime, being broken to pieces, and kept in a phial closely stopped, will emit a beautiful white light in the dark, after having been exposed some time to the rays of the sun. At present no use is made of this salt, except for drying some of the gases by attracting their moisture; but it might be employed, instead of the nitrate of potash, for manufacturing aquafortis.

The nitrate of ammonia possesses the property of exploding, and being totally decomposed, at the temperature of 600°; whence it acquired the name of nitrum flammans. The readiest mode of preparing it is by adding carbonate of ammonia to dilute nitric acid till saturation takes place. If this solution be evaporated in a heat between 70° and 100°, and the evaporation not carried too far, it crystallises in hexahedral prisms, terminating in very acute pyramids: if the heat rise to 212°, it will afford, on cooling, long fibrous silky crystals: if the evaporation be carried so far as for the salt to concreate immediately on a glass rod by cooling, it will form a compact mass. According to Sir H. Davy, these differ but little from each other, except in the water they contain, their component parts being as follows:—

Prismatic	} con- tains of acid	} 69.5 72.5 74.5	} ammo- nia	} 18.4 19.3 19.8	} 12.1 8.2 5.7
Fibrous					
Compact					

All these are completely deliquescent, but they differ a little in solubility. Alcohol at 176° dissolves nearly 90.9 of its own weight.

When dried as much as possible without decomposition, it consists of 6.75 acid + 2.125 ammonia + 1.125 water.

The chief use of this salt is for affording nitrous oxide on being decomposed by heat. See NITROGEN, OXIDE OF.

Nitrate of magnesia, magnesian nitre, crystallises in four-sided rhomboidal prisms with oblique or truncated summits, and sometimes in

bundles of small needles. Its taste is bitter, and very similar to that of nitrate of lime, but less pungent. It is fusible, and decomposable by heat, giving out first a little oxygen gas, then nitrous oxide, and lastly nitric acid. It deliquesces slowly. It is soluble in an equal weight of cold water, and in but little more hot, so that it is scarcely crystallisable but by spontaneous evaporation.

The two preceding species are capable of combining into a triple salt, an ammoniacomagnesian nitrate, either by uniting the two in solution, or by a partial decomposition of either by means of the base of the other. This is slightly inflammable when suddenly heated; and by a lower heat is decomposed, giving out oxygen, azote, more water than it contained, nitrous oxide, and nitric acid. The residuum is pure magnesia. It is disposed to attract moisture from the air, but is much less deliquescent than either of the salts that compose it, and requires eleven parts of water at 60° to dissolve it. Boiling water takes up more, so that it will crystallise by cooling. It consists of seventy-eight parts of nitrate of magnesia, and twenty-two of nitrate of ammonia.

From the activity of the nitric acid as a solvent of earths in analysis, the nitrate of glucine is better known than any other of the salts of this new earth. Its form is either pulverulent, or a tenacious or ductile mass. Its taste is at first saccharine, and afterward astringent. It grows soft by exposure to heat, soon melts, its acid is decomposed into oxygen and azote, and its base alone is left behind. It is very soluble and very deliquescent.

Nitrate, or rather supernitrate, of alumina crystallises, though with difficulty, in thin, soft, pliable flakes. It is of an austere and acid taste, and reddens blue vegetable colors. It may be formed by dissolving in diluted nitric acid, with the assistance of heat, fresh precipitated alumina, well washed but not dried. It is deliquescent, and soluble in a very small portion of water. Alcohol dissolves its own weight. It is easily decomposed by heat.

Nitrate of zircon was first discovered by Klapproth, and has since been examined by Guyton-Morveau and Vauquelin. Its crystals are small, capillary, silky needles. Its taste is astringent. It is easily decomposed by fire, very soluble in water, and deliquescent. It may be prepared by dissolving zircon in strong nitric acid; but, like the preceding species, the acid is always in excess.

Nitrate of yttria may be prepared in a similar manner. Its taste is sweetish and astringent. It is scarcely to be obtained in crystals; and if it be evaporated by too strong a heat, the salt becomes soft like honey, and on cooling concretes into a stony mass. See CHEMISTRY.

Nitrous acid.—It was formerly called fuming nitrous acid. It appears to form a distinct genus of salts, that may be termed nitrites. But these cannot be made by a direct union of their component parts, being obtainable only by exposing a nitrate to a high temperature, which expels a portion of its oxygen in the state of gas, and leaves the remainder in the state of a

nitrite, if the heat be not urged so far, or continued so long, as to effect a complete decomposition of the salt. In this way the nitrites of potash and soda may be obtained, and perhaps those of barytes, strontian, lime, and magnesia. The nitrites are particularly characterised by being decomposable by all the acids, except the carbonic, even by the nitric acid itself, all of which expel them from nitrous acid. We are little acquainted with any one except that of potash, which attracts moisture from the air, changes blue vegetable colors to green, is somewhat acrid to the taste, and when powdered emits a smell of nitric oxide.

The acid itself is best obtained by exposing nitrate of lead to heat in a glass retort. Pure nitrous acid comes over in the form of an orange colored liquid. It is so volatile as to boil at the temperature of 82°. Its specific gravity is 1.450. When mixed with water it is decomposed, and nitrous gas is disengaged, occasioning effervescence. It is composed of one volume of oxygen united with two of nitrous gas. It therefore consists ultimately, by weight, of 1.75 nitrogen + four oxygen; by measure, of two oxygen + one nitrogen. The various colored acids of nitre are not nitrous acids, but nitric acid impregnated with nitrous gas, the deutoxide of nitrogen or azote.

NITRIC ACID, OXYGENISED, was first formed by M. Thenard. When the peroxide of barium, prepared by saturating barytes with oxygen, is moistened, it falls to powder, without much increase of temperature. If in this state it be mixed with seven or eight times its weight of water, and dilute nitric acid be gradually poured upon it, it dissolves gradually by agitation, without the evolution of any gas. The solution is neutral, or has no action on turnsole or turmeric. When we add to this solution the requisite quantity of sulphuric acid, a copious precipitate of sulphate of barytes falls, and the filtered liquor is merely water, holding in solution oxygenised nitric acid. This acid is liquid and colorless; it strongly reddens turnsole, and resembles in all its properties nitric acid.

When heated it immediately begins to discharge oxygen; but its decomposition is never complete, unless it be kept boiling for some time. The only method which M. Thenard found successful for concentrating it was to place it in a capsule, under the receiver of an air-pump, along with another capsule full of lime, and to exhaust the receiver. By this means he obtained an acid sufficiently concentrated to give out eleven times its bulk of oxygen gas.

This acid combines very well with barytes, potash, soda, ammonia, and neutralises them. When crystallisation commences in the liquid, by even a spontaneous evaporation, these salts are instantly decomposed. The exhausted receiver also decomposes them. The oxygenised nitrates, when changed into common nitrates, do not change the state of their neutralisation. Strong solution of potash poured into their solutions decomposes them.

Oxygenised nitric acid does not act on gold; but it dissolves all the metals which the common acid acts on, and when it is not too concentrated,

it dissolves them without effervescence. Deutoxide or peroxide of barium, contains just double the proportion of oxygen that its protoxide does. But M. Thenard says that the barytes obtained from the nitrate by ignition contains always a little of the peroxide. When oxygenised nitric acid is poured upon oxide of silver a strong effervescence takes place, owing to the disengagement of oxygen. One portion of the oxide of silver is dissolved, the other is reduced at first, and then dissolves likewise, provided the quantity of acid be sufficient. The solution being completed, if we add potash to it, by little and little, a new effervescence takes place, and a dark violet precipitate falls; at least this is always the color of the first deposit. It is insoluble in ammonia, and, according to all appearance, is a protoxide of silver.

As soon as we plunge a tube containing oxide of silver into a solution of oxygenised nitrate of potash, a violent effervescence takes place; the oxide is reduced, the silver precipitates, the whole oxygen of the oxygenised nitrate is disengaged at the same time with that of the oxide; and the solution, which contains merely common nitrate of potash, remains neutral, if it was so at first. But the most unaccountable phenomenon is the following:—If silver, in a state of extreme division (fine filings), be put into the oxygenised nitrate or oxygenised muriate of potash, the whole oxygen is immediately disengaged. The silver itself is not attacked and the salt remains neutral as before.

NITROGEN, or **AZOTE**, in chemistry, an important elementary or undecomposed principle. As it constitutes four-fifths of the volume of atmospheric air, the readiest mode of procuring azote is to abstract its oxygenous associate, by the combustion of phosphorus or hydrogen. It may also be obtained from animal matters, subjected in a glass retort to the action of nitric acid, diluted with eight or ten times its weight of water.

Nitrogen possesses all the physical properties of air. It extinguishes flame and animal life. It is absorbable by about 100 volumes of water. Its specific gravity is 0.9722. 100 cubic inches weigh 29.65 grains. It has neither taste nor smell. It unites with oxygen in four proportions, forming four important compounds. These are, 1. Protoxide of nitrogen, or nitrous oxide. 2. Deutoxide of nitrogen, nitrous gas, or nitric oxide. 3. Nitrous acid. 4. Nitric acid.

1. Nitrous oxide or protoxide of azote was discovered by Dr. Priestley in 1772, but was first accurately investigated by Sir H. Davy in 1799. The best mode of procuring it is to expose the salt called nitrate of ammonia to the flame of an Argand lamp, in a glass retort. When the temperature reaches 400° F. a whitish cloud will begin to project itself into the neck of the retort accompanied by the copious evolution of gas, which must be collected over mercury for accurate researches, but for common experiments may be received over water. It has all the physical properties of air. It has a sweet taste, a faint agreeable odor, and is condensable by about its own volume of water, previously deprived of its atmospheric air. This property enables us to determine the purity of nitrous

oxide. A taper plunged into this gas burns with great brilliancy; the flame being surrounded with a bluish halo. But phosphorus may be melted and sublimed in it without taking fire. When this combustible is introduced into it, in a state of vivid combustion, the brilliancy of the flame is greatly increased. Sulphur and most other combustible bodies require a higher degree of heat for their combustion in it than in either oxygen or common air. This may be attributed to the counteracting affinity of the intimately combined nitrogen. Its specific gravity is 1.5277: 100 cubic inches weigh 46.6 gr. It is respirable, but not fitted to support life. Sir H. Davy first showed, that by breathing a few quarts of it, contained in a silk bag, for two or three minutes, effects analogous to those occasioned by drinking fermented liquors were produced. See AIR and CHEMISTRY, Index. The following very remarkable cases of the effects of nitrous oxide occurred among Professor Silliman's students at Yale College, New Haven. A gentleman about nineteen years of age, of a sanguine temperament and cheerful temper, and in the most perfect health, inhaled the gas, which was prepared and administered in the usual dose and manner. Immediately his feelings were uncommonly elevated, so that, as he expressed it, he could not refrain from dancing and shouting. To such a degree was he excited that he was thrown into a frightful delirium, and his exertions became so violent that he sunk to the earth exhausted; and, having there remained till he in some degree recovered his strength, he again rose only to renew the most convulsive muscular efforts, and the most piercing screams and cries, until, overpowered by the intensity of the paroxysms, he again fell to the ground apparently senseless, and panting vehemently. For the space of two hours these symptoms continued; he was perfectly unconscious of what he was doing, and was in every respect like a maniac: he states, however, that his feelings vibrated between perfect happiness and the most consummate misery. After the first violent effects had subsided he was obliged to lie down two or three times, from excessive fatigue, although he was immediately aroused upon any one's entering the room. The effects remained in a degree for two or three days, accompanied by a hoarseness, which he attributed to the exertions made while under the influence of the gas.

The other case was that of a man of mature age, and of a grave character. For nearly two years previously to his taking the gas, his health had been very delicate, and his mind so gloomy and depressed that he was obliged almost entirely to discontinue his studies. In this state of debility, he inhaled three quarts of the nitrous oxide. The consequences were an astonishing invigoration of his whole system, and the most exquisite perception of delight. These were manifested by an uncommon disposition for mirth and pleasantry, and by extraordinary muscular power. The effects of the gas were felt, without diminution, for at least thirty hours, and, in a greater or less degree, for more than a week; but the most remarkable effect was upon the organs of taste. Before taking the gas, he felt

no peculiar choice in the articles of food, but, immediately after that event, he manifested a taste for such things only as were sweet, and for several days ate nothing but sweet cake. Indeed, this singular taste was carried to such excess, that he used sugar and molasses, not only upon his bread and butter, and lighter food, but upon his meat and vegetables; and this he continued to do all the eight days after he had inhaled the gas. He became quite regular in his mind, and habitually cheerful, while before he was habitually grave, and even to a degree gloomy.

2. Deutoxide of nitrogen, or nitric oxide, was first described by Dr. Priestley in 1772. Into a glass retort, containing copper turnings, pour nitric acid diluted with six or eight times its quantity of water, and apply a gentle heat. A gas comes over, which may be collected over water; but, for exact experiments, it should be received over mercury. Its specific gravity is 1.0416. 100 cubic inches weigh 36.77 grains. Water condenses only about one-twentieth of its volume of nitric oxide. But a solution of protosulphate or protomuriate of iron absorbs it very copiously, forming a dark colored liquid, which is used for condensing oxygen, in the eudiometer of Sir H. Davy. When a jar of nitric oxide is opened in the atmosphere red fumes appear in consequence of the absorption of oxygen, and formation of nitrous acid. When an animal is made to inhale this gas it is instantly destroyed by the formation of this acid, and condensation of the oxygen in its lungs. When a burning taper is immersed in this gas it is extinguished; as well as the flame of sulphur. But inflamed phosphorus burns in it with great splendor. A mixture of hydrogen gas and nitric oxide burns with a lambent green flame, but does not explode by the electric spark; though Fourcroy says that it detonates on being passed through an ignited porcelain tube. The pyrophorus of Homberg spontaneously burns in it.

Nitrogen combines with chlorine and iodine to form two very formidable compounds:—

1. The chloride of nitrogen was discovered about the beginning of 1812, by M. Dulong; but its nature was first investigated and ascertained by Sir H. Davy.

Put into an evaporating porcelain basin a solution of one part of nitrate or muriate of ammonia in ten of water, heated to about 100°, and invert into it a wide-mouthed bottle filled with chlorine. As the liquid ascends by the condensation of the gas, oily-looking drops are seen floating on its surface, which collect together, and fall to the bottom in large globules. This is chloride of nitrogen or azote. By putting a thin stratum of common salt into the bottom of the basin, we prevent the decomposition of the chloride, by the ammoniacal salt. It should be formed only in very small quantities. The chloride of nitrogen thus obtained is an oily-looking liquid, of a yellow color, and a very pungent intolerable odor, similar to that of chlorocarbonous acid. Its specific gravity is 1.653. When tepid water is poured into a glass containing it, it expands into a volume of elastic fluid, of an orange color, which diminishes as it passes through the water.

‘I attempted,’ says Sir H. Davy, ‘to collect the products of the explosion of the new substance, by applying the heat of a spirit-lamp to a globule of it, confined in a curved glass tube over water: a little gas was at first extracted; but, long before the water had attained the temperature of ebullition, a violent flash of light was perceived, with a sharp report; the tube and glass were broken into small fragments, and I received a severe wound in the transparent cornea of the eye, which has produced a considerable inflammation of the eye, and obliges me to make this communication by an amanuensis. This experiment proves what extreme caution is necessary in operating on this substance; for the quantity I used was scarcely as large as a grain of mustard seed.’ Philosophical Transactions, 1813, part I. It evaporates pretty rapidly in the air; and in vacuo it expands into a vapor, which still possesses the power of exploding by heat. When it is cooled artificially in water, or the ammoniacal solution, to 40° Fahrenheit, the surrounding fluid congeals; but when alone it may be surrounded with a mixture of ice and muriate of lime, without freezing. It gradually disappears in water, producing azote; while the water becomes acid, acquiring the taste and smell of a weak solution of nitro-muriatic acid. With muriatic and nitric acids, it yields azote: and with dilute sulphuric acid, a mixture of azote and oxygen. In strong solutions of ammonia it detonates; with weak ones it affords nitrogen. When it was exposed to pure mercury, out of the contact of water, a white powder (calomel) and nitrogen were the results. ‘The action of mercury on the compound,’ says Sir H., ‘appeared to offer a more correct and less dangerous mode of attempting its analysis; but on introducing two grains under a glass tube filled with mercury, and inverted, a violent detonation occurred, by which I was slightly wounded in the head and hands, and should have been severely wounded had not my eyes and face been defended by a plate of glass, attached to a proper cap; a precaution very necessary in all investigations of this body.’ Philosophical Transactions, 1813, part II. In using smaller quantities, and recently distilled mercury, he obtained the results of the experiments, without any violence of action.

From his admirable experiments on the analysis of this formidable substance, by mercury, by muriatic acid, and from the discoloration of sulphate of indigo, we may infer its composition to be—

4 vol. of chlorine =	10	4 primes	18.0.
1	of azote =	0.9722	1 1.75.

or very nearly 10 by weight of chlorine to 1 of nitrogen.

A small globule of it, thrown into a glass of olive oil, produced a most violent explosion; and the glass, though strong, was broken into fragments. Similar effects were produced by its action on oil of turpentine and naphtha. When it was thrown into ether, or alcohol, there was a very slight action. When a particle of it was touched under water by a particle of phosphorus a brilliant light was perceived under the

water, and permanent gas was disengaged having the characters of azote or nitrogen.

When quantities larger than a grain of mustard-seed were used for the contact with phosphorus, the explosion was always so violent as to break the vessel in which the experiment was made. On tinfoil and zinc it exerted no action; nor on sulphur and resin. But it detonated most violently when thrown into a solution of phosphorus in ether or alcohol. The mechanical force of this compound, in detonation, seems superior to that of any other known, not even excepting the ammoniacal fulminating silver. The velocity of its action appears to be likewise greater. 'I touched,' says Dr. Ure, 'a minute globule of it, in a platina spoon resting on a table, with a fragment of phosphorus at the point of a pen-knife. The blade was instantly shivered into fragments by the explosion.'

Messrs. Porrett, Wilson, and Rupert Kirk, brought 125 different substances in contact with it. The following were the only ones which caused it to explode:—

Supersulphureted hydrogen.	Oil of turpentine.
Phosphorus.	Oil of tar.
Phosphuret of lime.	Oil of amber.
Phosphureted camphor.	Oil of petroleum.
Camphureted oil.	Oil of orange peel.
Phosphureted hydrogen gas.	Naphtha.
Caoutchouc.	Soap of silver.
Myrrh.	Soap of mercury.
Palm oil.	Soap of copper.
Ambergris.	Soap of lead.
Whale oil.	Soap of manganese.
Linseed oil.	Fused potash.
Olive oil.	Aqueous ammonia.
Sulphureted oil.	Nitrous gas.

Iodide of nitrogen. Azote does not combine directly with iodine. We obtain the combination only by means of ammonia. It was discovered by M. Courtois, and carefully examined by M. Colin. When ammoniacal gas is passed over iodine a viscid shining liquid is immediately formed, of a brownish-black color, which, in proportion as it is saturated with ammonia, loses its lustre and viscosity.

No gas is disengaged during the formation of this liquid, which may be called iodide of ammonia. It is not fulminating. When dissolved in water a part of the ammonia is decomposed; its hydrogen forms hydriodic acid, and its nitrogen combines with a portion of the iodine, and forms the fulminating powder. We may obtain the iodide of azote directly, by putting pulverulent iodine into common water of ammonia. This indeed is the best way of preparing it; for the water is not decomposed, and seems to concur in the production of this iodide, only by determining the formation of hydriodate of ammonia. The iodide of nitrogen is pulverulent, and of a brownish-black color. It detonates from the smallest shock, and from heat, with a feeble violet vapor. When properly prepared, it often detonates spontaneously. Hence after the black powder is formed, and the liquid ammonia decanted off, we must leave the capsule containing it in perfect repose. When this iodide is put into

potash water nitrogen is disengaged, and the same products are obtained as when iodine is dissolved in that alkaline lixivium. The hydriodate of ammonia, which has the property of dissolving a great deal of iodine, gradually decomposes the fulminating powder, while azote is set at liberty. Water itself has this property, though in a much lower degree. As the elements of iodide of nitrogen are so feebly united, it ought to be prepared with great precautions, and should not be preserved. The strongest arguments for the compound nature of nitrogen are derived from its slight tendency to combination, and from its being found abundantly in the organs of animals who feed on substances that do not contain it. See CHEMISTRY, Index, and the article AIR.

NITRO-MURIATIC ACID. See CHEMISTRY.

NIVELLES, a town of the Netherlands, in South Brabant, the chief place of an extensive district, stands on the river Thienne. It has three suburbs, and a population of 6600; manufactures of cambric and lace, oil, and paper; and the environs produce flax, hemp, and hops. Fifteen miles south of Brussels, and seventy-five N. N. W. of Namur. Long. 5° 15' E., lat. 50° 35' N.

NIVEOUS, *adj.* Lat. *niveus*. Snowy; resembling snow.

Cinabar becomes red by the acid exhalation of sulphur, which otherwise presents a pure and *niveous* white. *Broune.*

NIVERNOIS, the former name of a province to the west of Burgundy, in the interior of France. It is about sixty miles long, and fifty broad, containing a population of upwards of 220,000. Its climate is very pleasant and agreeable. The greater part of it is now comprehended in the department of the Nievre.

NIZOLIUS (Marius), an Italian grammarian, who, by his erudition, contributed much to the promotion of literature in the sixteenth century. In 1553 he published, *De Veris Principiis et Vera Ratione Philosophandi contra Pseudophilosophos*; wherein he attacks the schoolmen and followers of Aristotle for their absurd opinions and barbarisms, with great shrewdness and vivacity. Leibnitz was so pleased with it that he republished it, with critical notes of his own, in 4to., 1607. Nizolius also published, *Thesaurus Ciceronianus, sive Apparatus Linguæ Latinæ à Scriptis Tullii Ciceronis collectus*; fol.

NIZY, *n. s.* From Fr. *niais*. A dunce; a simpleton. A low word.

True critics laugh, and bid the trifling *nizy*
Go read Quintilian. *Anon.*

NO, *adv. & adj.* Sax. *na*, no; Goth. *nea*; Swed. *nei*; Teut. *ni*; Fr. and Lat. *non*; Ital. *no*. Nay; the word used in simply denying or refusing; it confirms a foregoing negative: as an adjective, it means not any; none.

Let there be *no* strife between thee and me.

Genesis.
When we saw that they were *no* where, we came to Samuel. I Samuel x. 14.

Our courteous Antony,
Whom ne'er the word of *no* woman heard speak,
Being barbered ten times o'er, goes to the feast.
Shakspeare.

Henceforth my wooing mind shall be exprest,
In russet yeas and honest kersy *noes*. *Id.*

My name's Macbeth.

—The Devil himself could not pronounce a title
More hateful to mine ear.

—*No*, nor more fearful. *Id.*

I think it would not sort amiss, to handle the
question, whether a war for the propagation of the
Christian faith, without another cause of hostility,
be lawful or *no*, and in what cases? *Bacon.*

No not the bow which so adorns the skies,
So glorious is, or boasts so many dyes. *Waller.*

Never more

This hand shall combat on the crooked shore:
No; let the Grecian powers, oppress in fight,
Unpitied perish in their tyrant's sight.

Dryden's Homer.

In vain I reach my feeble hands to join
In sweet embraces; ah! *no* longer thine.

Dryden.

No one who doeth good to those only from whom
he expects to receive good, can ever be fully satisfied
of his own sincerity. *Smalridge.*

If you will not consider these things now, the
time will shortly come when you shall consider them
whether you will or *no*. *Calamy's Sermons.*

Woman and fool are two hard things to hit,
For true *no* meaning puzzles more than wit. *Pope.*

No wit to flatter left of all his store,
No fool to laugh at, which he valued more. *Id.*

Some dire misfortune to portend,

No enemy can match a friend. *Swift.*

Poor Edwin was *no* vulgar boy. *Beattie.*

Discourse may want an animated—*No*,
To brush the surface, and to make it flow;
But still remember, if you mean to please,
To press your point with modesty and ease.

Cowper.

No, in ancient geography, or *No-Ammon*, a
considerable city of Egypt, mentioned by Jere-
miah, Ezekiel, and Nahum, thought to be named
from an idol analogous to Jupiter Ammon. The
Septuagint translate the name in Ezekiel, Dios-
polis, the city of Jupiter. Bochart takes it to
be Thebes of Egypt; which, according to Strabo
and Ptolemy, was called Diaspolis. Jerome,
after the Chaldee paraphrast Jonathan, supposes
it to be Alexandria, named by way of anticipa-
tion; or an ancient city of that name is supposed
to have stood on the spot where Alexandria was
built.

NOACHIDÆ, a name given by the rabbins
to all mankind who are not of the chosen race of
Abraham. The rabbins pretend that God gave
Noah and his sons certain general precepts,
which contain the natural rights common to all
men, and the observation of which alone will be
sufficient to save them. After the law of Moses,
the Hebrews would not suffer any stranger to
dwell in their country, unless he would conform
to the precepts of the Noachide. These pre-
cepts are seven:—The 1st enjoins obedience to
judges, magistrates, and princes. The 2d prohi-
bits idolatry, superstition, and sacrilege. The
3d forbids cursing, blasphemy, and perjury.
The 4th prohibits all incestuous and unlawful
conjunctions, as sodomy, bestiality, and crimes
against nature. The 5th forbids murder, wounds,
and mutilations. The 6th prohibits theft, cheat-
ing, lying, &c. The 7th forbids to eat the parts
of an animal still alive, as was practised by some
pagans. To those the rabbins have added some

others; but as no mention is made of these pre-
cepts in Scripture, or in the writings of Josephus
or Philo, and as none of the ancient fathers
knew any thing of them, they appear to be spu-
rious.

NOACOTE, a district of Nepaul, in about
28° of N. lat. in the mountains, and so perfectly
sheltered from the north winds as to be much
warmer than the other parts of Nepaul. It pro-
duces a great quantity of sugar, and the fruits of
the more southern provinces. The villages are
encamped with stone walls.

NOACOTE, the capital of the above-mentioned
district, though not of great extent, contains some
of the largest and best looking houses in Nepaul,
and a celebrated Hindoo temple, dedicated to
Bhavany. Its situation commands the only en-
trance in this quarter from Thibet. Long. 85°
30' E., lat. 27° 43' N.

NOAH, or NOE, the son of Lamech, and the
tenth from Adam, was born A. M. 1056. Amidst
the general corruption into which all mankind
were fallen at this time, Noah alone, with his fam-
ily, were found worthy of being preserved from
total destruction by the deluge: A. M. 1656.
See ARK and DELUGE; also Gen. vi.—viii. He
cursed Canaan, probably because he was a part-
ner in his father Ham's crime of disrespect, and
the Canaanites his descendants were after this to
be rooted out by the Israelites. The rabbins
indeed have a tradition that it was Canaan who
first saw his father in the disgraceful state men-
tioned, and ran and informed his father Ham.
Noah added, Let the Lord, the God of Shem, be
blessed, and let Canaan be the servant of Shem.
And he was so in effect, in the Canaanites sub-
dued by the Hebrews. Lastly, Noah said, Let
God extend the possession of Japheth; let Jap-
heth dwell in the tents of Shem, and let Canaan
be his servant. This prophecy had its accom-
plishment when the Grecians, and afterwards
the Romans, descendants of Japheth, made a
conquest of Asia, which was the portion of
Shem. Noah lived after the deluge 350 years;
and, the whole time of his life having been 950
years, he died, A. M. 2006. According to the
common opinion, he divided the whole world
among his three sons, in order to re-people it.
To Shem he gave Asia, to Ham Africa, and to
Japheth Europe. Some say that he had several
others. The spurious Berosus gives him thirty,
called Titans, from their mother Titæa. They
pretend that the Teutons, or Germans are derived
from a son of Noah called Tuison. Methodius
also mentions Jonithus or Ionicus, a pretended
son of Noah. St. Peter calls Noah a preacher of
righteousness (2 Ep. ii. 5), because before the
deluge he was incessantly preaching and declar-
ing to men, not only by his discourses, but by
his unblameable life, and by the building of the
ark, in which he was employed 120 years, that
the wrath of God was ready to pour upon them.
But his preaching had no effect (Matt. xxiv. 37).
Several learned men have observed that the hea-
thens confounded Saturn, Deucalion, Ogyges,
Cælus or Ouranus, Janus, Proteus, Prometheus,
&c., with Noah. The wife of Noah is called
Noriah by the Gnostics; and the fable of Deuca-
lion and his wife Pyrrha is manifestly invented

from the history of Noah. And Bryant has shown, in his System of Mythology, strong traces of the history of Noah and the general deluge to exist in the fabulous history of most ancient nations.

NOAILLES (Louis Antoine de), a French prelate of the last century, was the second son of Anne, duc de Noailles, from whom he inherited the dukedom of St. Cloud, with the signory of Aubrach. A devotional turn of mind, and a passion for literature, induced him to enter the church at an early age, and in his twenty-fifth year he had become a doctor of the Sorbonne. At length he became archbishop of Paris, and primate of France. In 1700 he was promoted to the purple. He strongly opposed the famous bull Unigenitus, respecting Quesnel's work on the New Testament, so that not only did his popularity decline, but a sentence of banishment was issued against him, through the influence of Tellier and the Jesuitical party. His disgrace, however, was but of short duration. His death took place at Paris, May 4th, 1729. He was noted for his strict impartiality between the contending church factions of his day, and for his close attention to the lives and manners of the French clergy, which he much improved.

NOANAGUR, a stony district of Hindostan, province of Gujerat, on the south side of the Gulf of Cutch. It produces sugar-cane, and good crops of grain and cotton. The inhabitants are Hindoos, and their chief retains the title of Jam. The capital of this name, situated on the river Nagne, is defended by a stone wall, with round towers and a ditch. The inhabitants manufacture very beautiful cloths, for the dyeing of which the Nagne is supposed by the natives to possess some peculiarly favorable qualities. The chief is independent, and coins, in his own name, a small silver coin called cores, equal in value to one-third of the Surat rupee. In 1808 he entered into a treaty with the British, by which he chiefly engaged that his subjects should refrain from piracy.

NOB, a sacerdotal city of the tribe of Benjamin or Ephraim. St. Jerome says that in his time it was entirely destroyed, and that the ruins of it might be seen near Diospolis. The destruction of this city, and the barbarous massacre of its inhabitants, by Saul's order, are recorded in 1 Sam. xxi. xxii. See also ABIMELECH and DOG.

NOBILI (Robert de), an Italian Jesuit, and one of the Indian missionaries, who, in the beginning of the seventeenth century, to secure success to his mission, assumed the title and appearance of a Bramin and at length persuaded the credulous people that he was in reality a member of that order. He forged a deed in the ancient Indian characters, showing that the Bramins of Rome were older than those of India, and that the Jesuits of Rome descended in a direct line from the god Brama. He farther declared on oath that he derived his origin from this Indian deity. By this imposture he proselyted twelve eminent Bramins, whose influence proved very favorable to his mission. After his death, the Portuguese Jesuits carried on the imposture with very considerable success. These missions, however, were suspended and aban-

doned, in consequence of a papal mandate issued in 1744, by Benedict XIV., who declared his disapprobation of the artifices that had been used in the conversion of the Indians.

NOBILITATE, *v. a.* } Lat. *nobilito, nobi-*
NOBILITY, *n. s.* } *litas.* To make of
NOBLE, *adj. & n. s.* } higher superior rank:
NOBLEMAN, } nobility is high rank;
NOBLENESS, } dignity; grandeur;
NOBLESS, } aristocracy; in Eng-
NOBLY, *adv.* } land it includes the
five ranks of duke, marquis, earl, viscount, baron: noble is high in rank or character; illustrious; great; worthy; generous; frank: it is also sometimes used for principal or capital: a noble or nobleman is one of high rank: the former also signifies a coin, once common in England, worth 6s. 8d.: nobleness and nobility follow the senses of noble: nobless is a foolish and obsolete Gallicism (Fr. *noblesse*), used as synonymous with nobility and nobleness.

Upon the nobles of the children of Israel he laid not his hand. *Erodus.*

Thus this man died, leaving his death for an example of a noble courage, and a memorial of virtue. *2 Mac. vi. 31.*

But ah, my muse, I would thou had'st facility
To work my goddess so by thy invention,
On me to cast thine eyes where shine nobility. *Sidny.*

Fair branch of nobless, flower of chivalry,
That which your worth the world amazed make. *Spenser.*

Many fair promotions
Are daily given to ennoble those
That scarce, some two days since, were worth a noble. *Shakspeare.*

How many nobles then should hold their places,
That must strike sail to spirits of vile sort! *Id.*
Did he not straight the two delinquents tear,
That were the slaves of drink and thralls of sleep?
Was not that nobly done? *Id. Macbeth.*

If I blush,
It is to see a nobleman want manners. *Shakspeare.*
True nobleness would
Learn him forbearance from so foul a wrong. *Id.*
It is a purposed thing,
To curb the will of the nobility. *Id. Coriolanus.*

Base men, being in love, have then a nobility in their natures more than is native to them. *Shakspeare.*

Let us haste to hear it,
And call the nobles to the audience. *Id.*
He coined nobles, of noble, fair, and fine gold. *Camden.*

Upon every writ procured for debt or damage, amounting to forty pounds or more, a noble, that is six shillings and eight-pence, is, and usually hath been, paid to fine. *Bacon.*

What the nobles once said in parliament, *Nolumus leges Angliæ mutari*, is imprinted in the hearts of all the people. *Id.*

Thou whose nobleness keeps one stature still,
And one true posture, though besieged with ill. *Ben Jonson.*

In the court of our Henry the Eighth, a certain great peer could say, it was enough for noblemen's sons to wind their horn, and carry their hawk fair; that study was for the children of a meaner rank. *Bp. Hall.*

He that does as well in private between God and his own soul, as in public, hath given himself a tes-

timony that his purposes are full of honesty, *nobleness*, and integrity. *Taylor.*

This fate he could have scaped, but would not lose Honour for life; but rather *nobly* chouse Death from their fears, than safety from his own. *Denham.*

The *nobles* amongst the Romans took care in their last wills, that they might have a lamp in their monuments. *Wilkins.*

To vice industrious, but to *nobler* deeds Tim'rous. *Milton.*

A *noble* stroke he lifted high,
Which hung not, but with tempest fell. *Id.*

Greatness of mind, and *nobleness* their seat
Build in her loveliest. *Id. Paradise Lost.*

There is not only a congruity herein between the *nobleness* of the faculty and the object, but also the faculty is enriched and advanced by the worth of the object. *Hale.*

The lessons teaching it (content) may as well suit the rich and *noble* as the poor and the peasant. *Barrow.*

From virtue first began
The difference that distinguished man from man :
He claimed no title from descent of blood,
But that which made him *noble*, made him good. *Dryden.*

Only a second laurel did adorn

His colleague Catulus, though *nobly* born :
He shared the pride of the triumphal bay,
But Marius won the glory of the day. *Id.*

I know no reason that we should give that advantage to the commonalty of England to be foremost in brave actions which the *nobless* of France would never suffer in their peasants. *Id.*

You have not only been careful of my fortune, which was the effect of your *nobleness*, but you have been solicitous of my reputation, which is that of your kindness. *Id.*

The *nobleman* is he whose *noble* mind
Is filled with inborn worth. *Id. Wife of Bath.*

Long galleries of ancestors
Challenge, nor wonder, or esteem from me,
' Virtue alone is true *nobility*.' *Id.*

Those two great things that so engross the desires and designs of both the *nobler* and ignobler sort of mankind, are to be found in religion; namely, wisdom and pleasure. *South.*

There could not have been a more magnificent design than that of Trajan's pillar. Where could an emperor's ashes have been so *nobly* lodged as in the midst of his metropolis, and on the top of so exalted a monument? *Addison on Italy.*

Estates are now almost as frequently made over by whist and hazard as by deeds and settlements: and the chariots of many of our *nobility* may be said (like Basset's in the play) to roll upon the four axes. *Connoisseur.*

See all our *nobles* begging to be slaves,

See all our fools aspiring to be knaves. *Pope.*

The second natural division of power is of such men who have acquired large possessions, and consequently dependencies; or descend from ancestors who have left them great inheritances, together with an hereditary authority: these easily unite in thoughts and opinions. Thus commences a great council or senate of *nobles*, for the weighty affairs of the nation. *Swift.*

Men should press forward in Fame's glorious chace,

Nobles look backward, and so lose the race. *Young.*

A correspondence fixed wth Heaven
Is sure a *noble* anchor! *Burns.*

Strew the deck
With lavender, and sprinkle liquid sweets.

That no rude savour maritime invade the nose
Of nice *nobility*! *Couper.*

The *nobility* and gentry were taught theoretically as well as practically to bruise the bodies, and (to use a technical term) darken the day-lights of each other, with the vigour of a Hercules tempered with the grace of an Apollo. *Canning.*

NOBILITY, in the common acceptance of the word, means that quality or dignity which raises a man above the rank of a peasant or a commoner. It is an opinion not uncommon, and at least plausible, that the nobility of a well regulated state is the best security against monarchical despotism or lawless usurpation on the one hand, and the confusion of democratic insolence on the other. Self-interest is the most powerful principle in the human breast; and it is obviously the interest of such men to preserve that balance of power in society upon which the very existence of their order depends.

The origin of nobility in Europe is by some referred to the Goths; who, after they had seized a part of Europe, rewarded their captains with titles of honor, to distinguish them from the common people. We shall only in this place consider the manner in which in our own country they may be created, and the incidents attending them. 1. The right of peerage seems to have been originally territorial; that is, annexed to lands, honors, castles, manors, and the like; the proprietors and possessors of which were (in right of those estates) allowed to be peers of the realm, and were summoned to parliament to do suit and service to their sovereign: and, when the land was alienated, the dignity passed with it as appendant. Thus, in England, the bishops still sit in the house of lords in right of succession to certain ancient baronies annexed, or supposed to be annexed, to their episcopal lands; and thus in 11 Henry VI. the possession of the castle of Arundel was adjudged to confer an earldom on its possessor. But afterwards, when alienations grew to be frequent, the dignity of peerage was confined to the lineage of the party ennobled, and, instead of territorial, became personal. Actual proof of a tenure by barony became no longer necessary to constitute a lord of parliament; but the record of the writ of summons to him or his ancestors was admitted as a sufficient evidence of the tenure. Peers of Great Britain (says Blackstone) are now created either by writ or by patent: for those who claim by prescription must suppose either a writ or patent made to their ancestors; though by length of time it is lost. The creation by writ, or the king's letter, is a summons to attend the house of peers, by the style and title of that barony which the king is pleased to confer: that by patent is a royal grant to a subject of any dignity and degree of peerage. The creation by writ is the more ancient way; but a man is not ennobled thereby, unless he actually take his seat in the house of lords; and some are of opinion that there must be at least two writs of summons, and sitting in two distinct parliaments, to evidence an hereditary barony: and therefore the most usual, because the surest way, is to grant the dignity by patent, which endures to a man and his heirs according to the limitations thereof, though he never himself makes

use of it. Yet it is frequent to call up the eldest son of a peer to the house of lords by writ of summons, in the name of his father's barony: because in that case there is no danger of his childrens' losing the nobility in case he never take his seat; for they will succeed to their grandfather. Creation by writ has also one advantage over that by patent; for a person created by writ holds the dignity to him and his heirs, without any words to that purpose in the writ; but in letters patent there must be words to direct the inheritance, else the dignity endures only to the grantee for life. For a man or woman may be created noble for their own lives, and the dignity not descend to their heirs at all, or descend only to some particular heirs: as where a peerage is limited to a man and the heirs male of his body by Elizabeth his present lady, and not to such heirs by any former or future wife. 2. Let us next take a view of a few of the principal incidents attending the nobility,—exclusive of their capacity as members of parliament, and as hereditary counsellors of the crown, for both which we refer to the article PARLIAMENT. And first we must observe, that in criminal cases a nobleman shall be tried by his peers. The great are always obnoxious to popular envy: were they to be judged by the people they might be in danger from the prejudice of their judges; and would moreover be deprived of the privilege of the meanest subjects, that of being tried by their equals, which is secured to all the realm by magna charta, c. 29. It is said that this does not extend to bishops; who though they are lords of parliament, and sit there by virtue of their baronies which hold *jure ecclesiæ*, yet are not ennobled by blood, and consequently not peers with the nobility. As to peeresses, no provision was made for their trial when accused of treason or felony, till after Eleanor duchess of Gloucester, wife to the lord protector, had been accused of treason, and found guilty of witchcraft, in an ecclesiastical synod, through the intrigues of cardinal Beaufort. This very extraordinary trial gave occasion to a special statute, 20 Hen. VI. cap. 9, which enacts that peeresses, either in their own right or by marriage, shall be tried before the same judicature as peers of the realm. If a woman, noble in her own right, marries a commoner, she still remains noble, and shall be tried by her peers: but, if she be only noble by marriage, then by a second marriage with a commoner she loses her dignity; for as by marriage it is gained, by marriage it is also lost. Yet if a duchess-dowager marries a baron, she continues a duchess still; for all the nobility are pares, and therefore it is no degradation. A peer or peeress (either in her own right or by marriage) cannot be arrested in civil cases: and they have also many peculiar privileges annexed to their peerage in the course of judicial proceedings. A peer sitting in judgment gives not his verdict upon oath, like an ordinary jurymen, but upon his honor; he answers also to bills in chancery upon his honor, and not upon his oath: but when he is examined as a witness, either in civil or criminal cases, he must be sworn; for the respect which the law shows to the honor of a peer does not extend so far as to overturn a settled maxim

that in *judicio non creditur nisi juratus*. The honor of peers is however so highly tendered by the law that it is much more penal to spread false reports of them, and certain other great officers of the realm, than of other men; scandal against them being called by the peculiar name of scandalum magnatum, and subjected to a peculiar punishment by divers ancient statutes. A peer cannot lose his nobility but by death or attainder; though there was an instance, in the reign of Edward IV., of the degradation of George Neville duke of Bedford by act of parliament, on account of his poverty, which rendered him unable to support his dignity. But this is a singular instance, which serves at the same time, by having happened, to show the power of parliament; and, by having happened but once, to show how tender the parliament hath been in exerting so high a power. It hath been said indeed, that if a baron wastes his estate, so that he is not able to support the degree, the king may degrade him: but it is expressly held by later authorities that a peer cannot be degraded but by act of parliament.

NOBILITY, SCOTTISH. The earl of Buchan, in his Introduction to the Life of Fletcher, speaks in very strong terms of the power of the ancient Scottish nobility. 'The king and the slaves,' says he, 'were, in fact, the only people, and the nobility was the prince. The king therefore, with the slaves, assumed the station of the people, and crushed more or less in different ages the prince, combined and composed of the great proprietors of the soil.'—'The nobility of Scotland were the earls and lords of regality. Scotland never knew such an order of men as lords of parliament. The earls had no right to sit in the parliament, but by their lands; but being chief magistrates and judges in their counties, with regal powers, these, with their territorial advantages springing from the feudal system, rendered them truly formidable both to the king and to the commonwealth. James I. saw the advantages reaped in England by the crown, in consequence of the formation of a peers' house of parliament and the power of calling up great commoners by writ of summons to that house of parliament, and wished to adopt so crafty an example. On the trial of Murdock, duke of Albany, he established a precedent for what were called barons of Baron-*rent* to be called lords and nobles, and to sit with precedence in the parliament by royal charter of lands, erecting estates into earldoms or baronies, unconnected with the ancient earldoms or county palatines of the kingdom; and then by the election of certain members of parliament for preparing the laws or acts, who were called lords of the articles, chosen from the earls, barons of baron-*rent*, and the great officers of the state, he contrived to quash or prevent motions that were adverse to the interest of the crown.'

A NOBLE is a person who has a privilege which raises him above a commoner, or peasant, either by birth, by office, or by patent from his prince. The original word *nobilis* is formed of the ancient *noscibilis*, distinguishable, or remarkable. In England the word noble is of a narrower import than in other countries, being

confined to persons above the degree of knights; whereas abroad, it comprehends not only knights, but gentlemen. The nobles of England are also called *pares regni*, as being nobilitate pares, though gradu impares. Nobles, among the ancient Greeks, were called *Ευπατριδαι*, as descended from those heroic ancestors so famous in history. Such were the Praxiergidæ, Etroubtidæ, Alcæonidæ, &c., all of whom had many privileges annexed to their quality; amongst which this was one, that they wore grasshoppers in their hair as a badge of nobility. Nobles, among the ancient Romans, were such as had the *jus imaginum*, or the right of using the pictures or statues of their ancestors; a right which was allowed only to those whose ancestors had borne some curule office, that is, had been curule, ædile, censor, prætor, or consul. For a long time none but the Patricii were the nobles, because no person but of that superior rank could bear any curule office; hence in Livy, Sallust, &c., *nobilitas* is used to signify the Patrician order, and so opposed to plebs. To make the true meaning of *nobilis* still more clear, let it be observed that the Roman people were divided into nobles, *novi*, and *ignobiles*. Nobles were they who had the pictures, &c., of their ancestors; *novi* were such as had only their own; *ignobiles* were such as had neither. See Jus. The Roman nobility, by way of distinction, wore a half moon upon their shoes, especially those of Patrician rank.

The NOBLE was anciently a coin struck in the reign of Edward III. and then called the penny of gold; but afterwards a rose noble, from its being stamped with a rose.

NOBODY, *n. s.* No and body. No one; not any one.

This is the tune of our catch played by the picture of *nobody*. *Shakspeare. Tempest.*

It fell to Coke's turn, for whom *nobody* cared, to be made the sacrifice; for he was out of his office.

Clarendon.

If in company you offer something for a jest, and *nobody* seconds you on your own laughter, you may condemn their taste, and appeal to better judgments; but in the mean time you make a very indifferent figure. *Swift's Miscellanies.*

NO'CENT, *adj.* Lat. *nocens*. Guilty; criminal. Not used.

The earl of Devonshire being interested in the blood of York, that was rather feared than *nocent*; yet, as one that might be the object of others plots, remained prisoner in the tower during the king's life.

Bacon's Henry VII.

His head, well-stored with subtle wile:
Nor yet in horrid shade, or dismal den,
Nor *nocent* yet; but on the grassy herb,
Fearless unfeared he slept. *Milton's Paradise Lost.*

The warm limbeck draws

Salubrious waters from the *nocent* brood.

Philips.

They meditate whether the virtues of the one will exalt or diminish the force of the other, or correct any of its *nocent* qualities. *Watts on the Mind.*

NOCERA DELLA PAGANI, an old town of Naples, in the Principato Citra, on the Sarno. After its destruction by Roger of Normandy, in the eleventh century, the inhabitants occupied the surrounding villages, which they gradually

extended and embellished: hence the present town, instead of being surrounded with ramparts, presents to the eye scattered groups of houses, intermingled with trees. It is the see of a bishop, and gave birth to the celebrated painter Solimena. Population about 6800. Twenty miles E. S. E. of Naples.

NOCK, *n. s.* & *v. a.* Teut. *nocke*; Swed. *nok*; Ital. *nocchia*. A notch, nick, or slit; a notch: the anus; to place on a notch.

Then tooke he up his bow
And *nocked* his shaft, the ground whence all their
future griefe did grow. *Chapman.*

When the date of *nock* was out,
Off dropt the sympathetick snout. *Hudibras.*

NOCTAM'BULO, *n. s.* } Lat. *nox* and
NOCTID'IAL, *adj.* } *ambulo*; *noctis* and
NOCTIF'ERUS, *adj.* } *dies*; Fr. *nocturn*;
NOCTUARY, *n. s.* } Lat. *nocturnus*.
NOCTURN, } One who walks by
NOCTURNAL, *adj.* & *n. s.* } night or in sleep:

noctidial is comprising a day and a night: *noctiferous*, bringing night: *noctuary*, an account of transactions or occurrences in the night: *nocturn*, a nightly office of devotion: *nocturnal*, nightly; and an instrument whereby nightly observations are made.

The *noctidial* day, the lunar periodic month, and the solar year, are natural and universal; but incommensurate each to another, and difficult to be reconciled. *Holder.*

The reliques being conveniently placed before the church door, the vigils are to be celebrated that night before them, and the *nocturn* and the mattins for the honour of the saints whose the reliques are.

Stillingfleet

From gilded roofs depending lamps display
Nocturnal beams, that emulate the day. *Dryden.*

I beg leave to make you a present of a dream, which may serve to lull your readers till such time as you yourself shall gratify the public with any of your *nocturnal* discoveries. *Addison.*

I have got a parcel of visions and other miscellanies in my *noctuary*, which I shall send to enrich your paper. *Id.*

Respiration being carried on in sleep, is no argument against its being voluntary. What shall we say of *noctambulos*? There are voluntary motions carried on without thought, to avoid pain.

Arbutnot.

That projection of the stars which includes all the stars of our horizon, and therefore reaches to the thirty-eighth degree and a half of southern latitude, though its centre is the north pole, gives us a better view of the heavenly bodies as they appear every night to us; and it may serve for a *nocturnal*, and shew the true hour of the night. *Watts.*

NOCTAMBULOS, NOCTAMBULI, SOMNAMBULI, or night-walkers. Schenkins, Horastius, Clauderus, and Hildanus, who have written on sleep, give us various unhappy histories of *noctambuli*. When the disease is moderate the persons affected with it only repeat the actions of the day on getting out of bed, and go quietly to the places they frequented at other times; but those who have it in the most violent degree go up to dangerous places, and perform actions that would terrify them to think of when they are awake. These are by some called *lunatic* night-walkers, because fits are observed to return with the most

frequency and violence at the changes of the moon. See MEDICINE.

The NOCTURNAL, or NOCTURLABIUM, in astronomy, the name of an instrument chiefly used at sea, to take the altitude or depression of some stars about the pole, in order to find the latitude and hour of the night. Some nocturnals are hemispheres, or planispheres, on the plane of the equinoctial. Those commonly used among seamen are two; the one adapted to the polar star, and the first of the guards of the Little Bear; the other to the polestar, and the pointers of the Great Bear. This instrument consists of two circular plates, applied to each other. The greater, which has a handle to hold the instrument, is about two inches and a half diameter, and is divided into twelve parts, agreeing to the twelve months; and each month divided into every fifth day; so as that the middle of the handle corresponds to that day of the year wherein the star here regarded has the same right ascension with the sun. If the instrument be fitted for two stars, the handle is made moveable. The upper left circle is divided into twenty-four equal parts for the twenty-four hours of the day, and each hour subdivided into quarters. These twenty-four hours are noted by twenty-four teeth to be told in the night. Those at the hour twelve are distinguished by their length. In the centre of the two circular plates is adjusted a long index, moveable upon the upper plate; and the three pieces, viz. the two circles and index, are joined by a rivet which is pierced through the centre with a hole, through which the star is to be observed. To use the nocturnal, turn the upper plate till twelve be against the day of the month on the under plate; then, bringing the instrument near the eye, suspend it by the handle with the plane nearly parallel to the equinoctial, and, viewing the pole star through the hole of the centre, turn the index about, till, by the edge coming from the centre, you see the bright star or guard of the Little Bear (if the instrument be fitted to that star); then that tooth of the upper circle, under the edge of the index, is at the hour of the night on the edge of the hour circle: which may be known without a light, by counting the teeth from the longest, which is for the hour twelve.

NOD, *v. n. & n. s.* } Sax. *pnol*, the head;
 NOD'DER, *n. s.* } Lat. *nuto*; Gr. *vevo*. To
 NOD'DLE, } bend or lower the head
 NOD'DY. } slightly and quickly; make

a slight bow; hence, to be drowsy: noddle is used contemptuously for the head: a noddy (Fr. *naudin*) is a simpleton; a silly-head.

Let every feeble rumour shake your hearts;
 Your enemies, with *nodding* of their plumes,
 Fan you into despair. *Shakespeare. Coriolanus.*

Cassius must bend his body,

If Cæsar carelessly but *nod* on him. *Shakespeare.*

Like a drunken sailor on a mast,

Ready with every *nod* to tumble down

Into the fatal bowels of the deep. *Id.*

Her care shall be

To comb your *noddle* with a three-legged stool. *Id.*

Let your wines without mixture, or stain, be all fine,

Or esll up the master and break his dull *noddle*.

Ben Jonson.

My head's not made of brass,
 As friar Bacon's *noddle* was. *Hudibras.*
 He would not have it said before the people that images are to be worshipped with Latria, but rather the contrary, because the distinctions necessary to defend it are too subtle for their *noddles*.

Stillingfleet.

On the faith of Jove rely,
 When *nodding* to thy suit he bows the sky. *Dryden.*

When a pine is hewn on the plains,
 And the last mortal stroke alone remains,
 Lab'ring in pangs of death, and threat'ning all,
 This way and that she *nods*, considering where to fall. *Id.*

Every drowsy *nod* shakes their doctrine who teach that the soul is always thinking. *Locke.*

Come, master, I have a project in my *noddle*, that shall bring my mistress to you back again, with as good will as ever she went from you. *L'Estrange.*

The whole race of bawling, fluttering *noddies*, by what title so ever dignified, are a-kin to the ass in this fable. *Id.*

Your two predecessors were famous for their dreams and visions, and, contrary to all other authors, never pleased their readers more than when they were *nodding*. *Addison.*

Why shouldst thou try to hide thyself in youth?
 Impartial Proserpine beholds the truth;
 And, laughing at so fond and vain a task,
 Will strip thy hoary *noddle* of its mask. *Id.*

A mighty king I am, an earthly God;
 Nations obey my word, and wait my nod:
 And life or death depend on my decree. *Prior.*
 Thou that art ever half the city's grace,
 And add'st to solemn *noddles* solemn pace. *Fenton.*

A set of *nodders*, winkers, and whisperers, whose business is to strangle all other offspring of wit in their birth. *Pope.*

He climbs the mountain rocks,
 Fired by the *nodding* verdure of its brow. *Thomson.*

Not as of old,
 Extended in her hand the cap and rod,
 Whose slave-enlarging touch gave double life,
 But her bright temples bound with British oak,
 And naval honours *noddod* on his brow. *Id.*

NOD, or the land of Nod, the country to which Cain withdrew after his fratricide. Gen. iv. 16. The Septuagint, as well as Josephus, read Naid, instead of Nod, and have taken it for the name of a place. It is not known what country this was, unless it was Nyse or Nysea, towards Hyrcania. St. Jerome and the Chaldee interpreters have taken the word Nod in the sense of an appellative for vagabond or fugitive; 'He dwelt a fugitive in the land.' But the Hebrew reads, 'He dwelt in the land of Nod.' Gen. iv. 16.

NODAB, a country bordering upon Iturea and Idumæa, but now unknown. We read in the Chronicles that the tribe of Reuben, assisted by those of Gad and Manasseh, made a war against the Hagarites, the Jeturites, and the people of Nephish and of Nodab, in which the Israelites had the advantage. 1 Chron. v. 19. But the time and the other particulars of this war are unknown.

NODE, or NODUS, in dialling, a certain point or pole in the gnomon of a dial, by the shadow or light whereof either the hour of the day in dials without furniture, or the parallels

of the sun's declination, and his place in the ecliptic, &c., in dials with furniture, are shown.

NODES, in astronomy, are the two points where the orbit of a planet intersects the ecliptic. See ASTRONOMY.

NO'DOUS, *adj.* } Lat. *nodosus, nodulus.*
 NO'DOSITY, *n. s.* } Knotty: nodosity is knottiness; complication: nodule, a small knot or lump.

These the midwife cutteth off, contriving them into a knot close unto the body of the infant; from whence ensueth that tortuosity, or complicated nodosity, we call the navel. *Browné's Vulgar Errours.*

This is seldom affected with the gout, and, when that becometh *nodous*, men continue not long after.

Browné.

All these variations are finished in nineteen years, nearly agreeing with the course of the *nodes*, i. e. the points in the ecliptic where the moon crosseth that circle as she passeth to her northern or southern latitude; which *nodes* are called the head and tail of the dragon.

Holder.

Those minerals in the strata are either found in grains, or else they are amassed into balls, lumps, or *nodules*: which *nodules* are either of an irregular figure, or of a figure somewhat more regular.

Woodward's Natural History.

If *nodes* be the cause of the pain, foment with spirit of wine wherein opium and saffron have been dissolved.

Wiseman.

NOEHDEN (George Henry), LL. D., a learned German, domiciled in England, and a librarian in the British Museum, was born January 23d, 1770, at Gottingen, and received his education there. At the university he applied himself to the study of Greek and Roman antiquities, under Heyne, whom he assisted in his edition of Homer; and being in 1791 recommended to an English gentleman, at that time residing in Gottingen, he became tutor to his children, and domesticated in his family, and by means of that connexion he was introduced in the year 1793 to Sir William Milner, whose son, the present baronet, he attended at Eton, where he obtained the friendship of Jacob Bryant, Herschel, &c. After this he accompanied a younger son of the family to Gottingen, where he wrote a dissertation *De Porphyrii Scholiis in Homerum*. In 1800 Noehden published in England his German and English grammar, which has since gone through five editions, and is thought the best extant. He continued to reside in the Milner family till the death of Sir William in 1811, some time after which his character and acquirements procured him to be elected one of the librarians of the museum. The year following (1821) he translated Goethe's observations on the Last Supper of Leonardo da Vinci, with a prefatory essay and notes; and soon after succeeded to the superintendance of the Numismatology of the museum. His work on Northwick coins which now appeared he had intended to comprise in twelve numbers, but his death in March 1826, prevented its extension beyond the fourth number. Among his papers were found incomplete translations of Winckelmann's History of Art, and of Lessing's Laocoon; memoranda of his travels; and An Introduction to Numismatology.

NOEL (Alexander), an indefatigable writer of

the seventeenth century, born at Roan in Normandy, 1639. After finishing his studies at Roan he entered into the order of Dominican friars, and was professed there in 1655. Soon after he went to Paris, to study philosophy and divinity in the great convent, where he so distinguished himself that he was appointed to teach philosophy there, which he did for twelve years. Colbert showed him many marks of his esteem; and being determined to omit nothing to perfect the education of his son, afterwards archbishop of Roan, he formed an assembly of the most learned persons, whose conferences upon ecclesiastical history might be of advantage to him. Noel was invited to this assembly, where he exerted himself with so much genius and ability that he gained the particular friendship of young Colbert, who showed him the utmost regard as long as he lived. These conferences gave rise to his design of writing an ecclesiastical history; for, being desired to reduce what was material in these conferences to writing, he did it with so much accuracy that the learned men who composed this assembly advised him to undertake a complete body of church history. This he executed with great assiduity, collecting and digesting the materials himself, and writing even the tables with his own hand. He at last completed his work in 1686. Towards the latter part of his life he was afflicted with the loss of his sight. He died in 1724, aged eighty.

NOETIANS, in church history, Christian heretics in the third century, whose heresy consisted in affirming that there was but one person in the Godhead; and that the Word and the Holy Spirit were but external denominations given to God in consequence of different operations, that, as Creator, he is called Father; as incarnate, Son; and, as descending on the apostles, Holy Ghost.

NOGAT, a river and island of Prussia. The former branches off from the Vistula, passes by Marienburg, and joins the Frische Haf about six miles north of Elbing. The island thus formed by the two branches of the Vistula and the Baltic with its bays, is fertile, and of considerable extent.

NOGENT-LE-ROU, a post town and chief place of a subprefecture in the department of Eure-et-Loire, France, containing 6500 inhabitants, and having an inferior court of judicature, a board of trade, and a communal college. This town is pleasantly situated in a delightful valley, watered by the river Huisne, at the foot of a steep hill, on the side of which rises a Gothic castle, once the residence of the virtuous Sully. It is generally well-built, very long and airy. At the entrance of the town is seen a waterfall, formed by the waters of the little river Arceise, which turns three mills with astonishing rapidity. In the midst of the town is a fine square meadow, surrounded with houses, and bordered with a beautiful and shady gravelly walk. There are manufactures here of druggets, serges, bolting cloths, linens, &c., likewise cotton spinning factories, and dye-houses. The inhabitants trade in hemp, grain, fodder, &c. This town is thirty-nine miles W. S. W. of Chartres, forty-eight north-east of Mans, and 105 south-west of Paris.

NOGENT-SUR-SEINE, a pretty little post-town, and chief place of a subprefecture in the department of the Aube, containing 3200 inhabitants, and having an inferior court of justice. It is delightfully situated on the left bank of the Seine, which is navigable here, and at the extremity of some immense meadows that border each side of this river. It is generally a well-built, neat, and airy town. In the month of March, 1814, a bloody battle was fought here between the French and the allied armies, during which the bridge over the Seine, the town-hall, and several houses, were set on fire; the ruins of part of these edifices still remain.

Here are manufactories of caps, and rope-grounds, and quantities of wood are floated along the river from this place to Paris. A trade is also carried on in grain, flour, wine, vinegar, wood and charcoal, slates, salt, hemp, wool, &c. A passage boat starts hence every Wednesday for Paris. There are some beautiful walks on the banks of the Seine, which command a fine prospect of the country and of the navigation. A handsome flour-mill stands on the Seine.

NOG'GEN, *adj.* Goth. *knauke*, labor. Hard; rough; harsh.

He put on a hard, coarse, *noggen* shirt of Pendrel's. *Escape of King Charles.*

NOG'GIN, *n. s.* Germ. *nossel*; Irish, *neiggen*. A small mug or can.

Frog laughed in his sleeve, gave the squire the other *noggin* of brandy, and clapped him on the back. *Arbutnot.*

NOI'ANCE, *n. s.* } Fr. *nuire*; Lat. *nocere*.
NOIE, *v. a.* } Injury; mischief; incon-
NOI'ER, *n. s.* } venience: to noie is to in-
NOI'OUS, *adj.* } jure; disturb; annoy: a noier, one who annoys: noious, mischievous; troublesome. All these words are out of use.

To borrow to-day, and to-morrow to mis, For lender and borrower *noiance* it is. *Tusser.*

Let servant be ready with mattock in hand. To stub out the bushes that *noie*th the land. *Id.*

The north is a *noier* to grass of all suits, The east a destroyer to herbs and all fruits. *Id.* Being bred in a hot country, they found much hair on their faces to be *noious* unto them. *Spenser.*

The false Duessa, leaving *noious* night, Returned to stately palace of dame Pride. *Id.* But neither darkness foul, nor filthy bands, Nor *noious* smell his purpose could withhold. *Id.*

The single and peculiar life is bound, With all the strength and armour of the mind, To keep itself from *noiance*. *Shakspeare. Hamlet.*

NOIR, CAPE, a cape on the west coast of Terra del Fuego, is formed by a steep rock of considerable height, and the south-west point of a large island that seems to lie about a league or a league and a half from the main land. At the point are two rocks, the one peaked like a sugar-loaf, the other not so high and less peaked. Long. 73° 33' W., lat. 54° 30' S.

NOIRMOUTIERS, ISLE OF, situated in the Atlantic Ocean, on the coast of France, at the entrance of the bay of Bourgneuf, which it bounds on the south-west. This island forms part of the department of La Vendée, and the arrondissement of Sables d'Olonne, and is about thirty-six square miles in superficial extent. The

soil is excellent and always productive; the inhabitants find very rich manure in the marine plants that cover the coast. Here are many salt marshes; but they are very productive and fine pastures for cattle: there are also vineyards that yield tolerably good wine. Besides the town of Noirmoutiers there are the villages of Barbatre and Epine, including together a population of about 7500. The inhabitants have made very considerable embankments, by which they have preserved the most productive part of the island, which is twelve feet below the level of the ocean.

NOISE, *n. s., v. n., & v. a.* } Fr. *noise*;
NOISEFUL, *adj.* } Arm. *noas*.
NOISELESS, } Sound; and,
NOISE-MAKER, *n. s.* } emphatically,
NOIS'Y, *adj.* } loud sound; clamor; outcry; disturbance; fame: to noise is to sound loudly: also to spread by rumor or report: noiseful and noisy mean loud; clamorous; viragorous: noiseless, silent; quiet; without sound: noise-maker, a clamorer.

Therefore Jhesus eft making *noise* in himself, cam to the graue and ther was a denne, and a stoon was leid theronne. *Wiclif. Jon 11.*

All these sayings were *noised* abroad throughout all the hill country. *Luke 1. 65.*

Whether it were a whistling sound, or a melodious *noise* of birds among the spreading branches, these things made them swoon. *Wisdom xvii. 18.*

On our quickest decrees, The' inaudible and *noiseless* foot of time Steals, ere we can effect them. *Shakspeare.*

Great motions in nature pass without sound, c. *noise*. The heavens turn about in a most rapid motion, without *noise* to us perceived; though in some dreams they have been said to make an excellent musick. *Bacon's Natural History.*

I shall not need to relate the affluence of young nobles from hence into Spain; after the voice of our prince's being there had been quickly *noised*. *Wotton.*

Harm Those terrors, which thou speakest of, did me none; Tho' *noising* loud and threatening nigh. *Milton.*

Fear Shakes your hearts, while thro' the isle they hear A lasting *noise*, as horrid and as loud As thunder makes, before it breaks the cloud. *Walter.*

O leave the *noisy* town, O come and see Our country cotts, and live content with me! *Dryden.*

That eunuch, guardian of rich Holland's trade, Whose *noiseful* valour does no foe invade, And weak assistance will his friends destroy. *Id.*

So *noiseless* would I live, such death to find, Like timely fruit, not shaken by the wind, But ripely dropping from the sapless bough. *Id.*

The issue of all this *noise* is, the making of the *noisemakers* still more ridiculous. *L'Estrange.*

To *noisy* fools a grave attention lend. *Smith.* Socrates lived in Athens during the great plague which has made so much *noise* through all ages, and never caught the least infection. *Addison's Spectator.*

They might buz and whisper it one to another; and, tacitly withdrawing from the presence of the apostle, they then lift up their voices and *noised* it about the city. *Bentley.*

Although he employs his talents wholly in his closet, he is sure to raise the hatred of the *noisy* crowd. *Swift.*

Convinced that *noiseless* piety might dwell
In secular retreats, and flourish well. *Harte.*
What *noise* have we had about transplantation of
diseases, and transfusion of blood! *Baker.*

NOISOME, *adj.* } From the obsolete
NOISOMELY, *adv.* } **NOISIOUS**, which see; or
NOISOMENESS, *n. s.* } *Ital. noiseso.* Hurtful;
offensive; unwholesome; noxious: the adverb
and noun substantive corresponding.

The filthiness of his smell was *noisome* to all his
army. *2 Maccabees ix. 9.*

The brake and the cockle are *noisome* too much.
Tusser.

In case it may be proved that, among the number
of rites and orders common unto both, there are par-
ticulars, the use whereof is utterly unlawful in regard
of some special bad and *noisome* quality; there is no
doubt but we ought to relinquish such rites and
orders, what freedom soever we have to retain the
other still. *Hooker.*

The seeing these effects, will be
Both *noisome* and infectious.

Shakespeare. Cymbeline.

Foul words are but foul wind, and foul wind is
but foul breath, and foul breath is *noisome*.

Id. Much Ado about Nothing.

All my plants I save from nightly ill
Of *noisome* winds, and blasting vapours chill.

Milton.

When Antiochus was marching furiously to ac-
complish his threat of turning Jerusalem into a char-
nel, a *noisome* disease did intercept his progress.

Barrow.

Gravisca *noisome* from the neighbouring fen,
And his own Cære sent three hundred men.

Dryden.

An error in the judgment is like an imposthume
in the head, which is always *noisome*, and frequently
mortal.

South.

If he must needs be seen, with all his filth and
noisomeness about him, he promises himself, however,
that it will be some allay to his reproach to be but
one of many to march in a troop.

South.

The *noisome* pestilence, that in open war
Terrible, marches through the mid-day air,
And scatters death.

Prior.

Thither flow,

As to a common and most *noisome* sewer,
The dregs and feculence of every land.

Cowper.

NOIZ, LAKE, a lake of Louisiana, United
States, about fifty miles in circumference. It
discharges itself into the Bayou Rigula de Bon-
dieu, which joins Red River, three miles above
Natchitoches. All the salt used by the inhabi-
tants of the Red River settlements is made here,
and the water is so impregnated with salt as to
require very little boiling. The outlet is naviga-
ble for boats most of the year. Ten miles
above Natchitoches.

NOLA, a town of Naples, in the Terra di La-
voro is the see of a bishop, has an episcopal
seminary, and is of considerable antiquity. It
is the place where the emperor Augustus died.
It is also said to have been the place of the in-
vention and first use of bells. Under the Ro-
mans it was a flourishing colony, and numbers
of Etruscan vases are still found in it: but its
modern town is gloomy and ill built. Silk is
raised in the neighbourhood. Sixteen miles east
by north of Naples.

NOLANA, in botany, a genus of the mono-

gynia order, belonging to the pentandria class of
plants: and in the natural method ranking under
the forty-first order, asperifolia. The corolla is
campanulated; the style situated betwixt the
germens; the seeds are bilocular, and resemble
berries.

NOLDIUS (Christian), a Danish divine, born
in 1626. He was rector of the college at Land-
screon, and afterwards professor of divinity at
Copenhagen; where he died in 1673. He wrote
an excellent work, entitled Concordantiæ Par-
ticularum Hebræo-Chaldaicarum.

NOLI ME TANGERE, *Lat. i. e.* touch me not,
in botany. See **IMPATIENS**, and **MOMORDICA**.

NOLITION, *n. s.* *Lat. nolitio.* Unwilling-
ness: opposed to volition.

We may too certainly conclude that much more
than a single act of contrition, and a moral revoca-
tion, that is, a sorrow and a *nolition* of the past sins;
may be done upon our death-bed without effect.

Jer. Taylor.

Proper acts of the will are, volition, *nolition*,
choice, resolution, and command, in relation to sub-
ordinate faculties.

Hale.

NOLL, *n. s.* Sax. *Þnol.* A head; a noddle.

An ass's *noll* I fixed on his head. *Shakespeare.*

NOLLEKINS (Joseph), a modern sculptor
of unquestionable genius and talent, was born in
London in 1737, his father being a painter dis-
tinguished by his close imitation of Watteau.
This son was placed under Schemakers, and in
1759 and 1760 gained premiums from the so-
ciety of Arts. He then repaired to Rome where
he obtained the instructions of the sculptor Ca-
vaceppi, under whom he studied so successfully
that he soon had the honor of receiving a gold
medal from the Roman academy of painting and
sculpture. He materially improved at this time
his fortune by becoming a dealer in antiques,
and in the productions of Italian art generally.
At Rome he executed the busts of many Eng-
lishmen; and returning, in 1770, married soon
after the youngest daughter of Mr. Justice Welch,
with a handsome fortune, and took the lead in
his profession. Nollekins was chiefly distin-
guished by his careful and accurate imitation
of nature, and by the absence of all peculiarity
but hers. His Venus with the Sandal is esteemed
his principal production in the beau ideal; but
his busts are much admired. He was a great
favorite with George III., eccentric in many
points of his character, and a strange mixture of
avarice in small matters with great occasional
generosity. Nollekins died April 23d, 1823;
in the eighty-sixth year of his age, and in the
possession it is said of £200,000.

NOLLE PROSEQUI, in law, is where a plaintiff
in an action does not declare in a reasonable
time; in which case it is usual for the defendant's
attorney to enter a rule for the plaintiff to de-
clare, after which a non pros. may be entered. A
nolle prosequi is esteemed a voluntary confes-
sion that the plaintiff has no cause of action;
and therefore, if a plaintiff enters his nolle pro-
sequi, he shall be amerced; and, if an informer
cause the same to be entered, the defendant shall
have costs.

NOLLET (John Anthony), F. R. S., an emi-
nent French philosopher, born at Pimbre, in the

diocese of Noyon, on the 17th of November, 1700, of respectable but not wealthy parents. They sent him to the college of Clermont in Beauvois; afterwards to Beauvais, and at last to Paris; where he studied scholastic divinity; during his probation in 1728, he was made a deacon, and obtained a licence to preach. His time was now divided between theology and the sciences. The latter, however, prevailed, and he entered into the study of physics with ardor, and was received into the society of arts. In 1730 he was engaged in a work conjointly with Reaumur and Du Fay of the academy of sciences. In 1734 he went to London in company with Messrs. Du Fay, Du Hamel, and Jussieu. His merit procured him a place in the royal society without solicitation. Two years after he went to Holland, where he formed an intimate connexion with Desaguliers, Gravesande, and Muschenbroek. On his return to Paris he resumed the course of experimental physics which he had begun in 1735, and which he continued till 1760. These courses of physics suggested the idea of particular courses in chemistry, anatomy, natural history, &c. In 1708 the count de Maurepas prevailed on cardinal Fleury to establish a public class for experimental physics: and the abbé Nollet was appointed the first professor. In 1739 he was admitted a member of the royal academy of sciences; and in April following the king of Sardinia, intending to establish a professorship of physics at Turin, invited him into his dominions. Thence he travelled into Italy. In 1744 he was invited to Versailles, to instruct the dauphin in experimental philosophy; the king and royal family were often present at his lectures. The qualities of his heart as well as of his understanding gained him the esteem of his pupil. In April 1749 he again made a tour into Italy, being sent thither for the purpose of making observations. In 1753 the king instituted a class of experimental philosophy in the royal college of Navarre, and appointed abbé Nollet professor. In 1757 he appointed him preceptor in physics and natural history to the princes, and professor of experimental philosophy in the school of Artillery at Fere. In November following he was admitted as a pensionary of the royal academy of sciences; and in 1761 professor of experimental philosophy at Meziers. He died in Paris on the 25th of April 1770, aged seventy. His works are, 1. Several papers inserted in the memoirs of the academy of sciences; among which one on the Hearing of Fishes is particularly valuable. 2. *Leçons de Physique expérimentale*, 6 vols. 12mo., 1753. 3. *Recueil des Lettres sur l'Électricité*, 3 vols. 12mo 1753. 4. *Essai sur l'Électricité, des corps*, 1 vol. 12mo. 5. *Recherches sur les causes particulières des phénomènes Électriques*, 1 vol. 12mo. 6. *L'Andes Experiences*, 3 vols. 12mo. with figures, 1770.

NOMADES, a name given, in antiquity, to several nations whose whole occupation was to feed and tend their flocks; and who had no fixed place of abode, but were constantly shifting according to the convenience of pasturage. The word comes from the Greek *νέω*, to feed. The most celebrated Nomades were those of Africa.

They are also called Numidæ, or Numidians. Sallust says they were a colony of Persians brought into Africa with Hercules. The Nomades of Asia inhabited the coasts of the Caspian Sea. The Nomades of Scythia were the inhabitants of Little Tartary; who still retain their ancient manner of living.

NO-MAN'S-LAND, a space between the after part of the belfrey and the fore part of a ship's boat, when the said boat is stowed upon the booms, as in a deep waisted vessel. These booms are laid from the forecastle nearly to the quarter-deck, where their after ends are usually sustained by a frame called the gallows, which consists of two strong posts, about six feet high, with a cross piece reaching from one to the other, athwart ships, and serving to support the ends of those booms, masts, and yards, which lie in reserve to supply the place of others carried away, &c. The place called No-man's-land is used to contain any blocks, ropes, tackles, &c., which may be necessary on the forecastle. It probably derives this name from its situation, as being neither on the starboard nor larboard side of the ship, nor on the waist or forecastle; but, being situated in the middle, partakes equally of all those places.

NOMARCHA, in antiquity, the governor or commander of a nome, or nomos. Egypt was anciently divided into several regions or quarters, called nomes; from the Greek *νομος*, taken in the sense of a division; and the officer who had the administration of each nome or nomos, from the king, was called nomarcha, from *νομος* and *αρχη*, command.

NOMBRIL POINT, in heraldry, is the next below the fess point, or the very centre of the escutcheon. Supposing the escutcheon divided into two equal parts below the fess, the first of these divisions is the nombril, and the lower the base.

NOME, or **NAME**, in algebra, denotes any quantity with a sign prefixed or added to it, whereby it is connected with some other quantity, upon which the whole becomes a binomial, trinomial, or the like. See **ALGEBRA**.

NOMENCLATOR, *n. s.* } Lat. *nomenclator*;
NOMENCLATURE. } *tor*; Fr. *nomenclature*. One who calls things or persons by their proper names: nomenclature, the act of naming, or vocabulary of names; a dictionary.

To say, where notions cannot fitly be reconciled, that there wanteth a term or *nomenclature* for it, is but a shift of ignorance. *Bacon's Natural History*.

The watery plantations fall not under that *nomenclature* of Adam, which unto terrestrious animals assigned a name appropriate unto their natures.

Brovne.

There were a set of men in old Rome called *nomenciators*; men who could call every man by his name.

Addison.

Are envy, pride, avarice, and ambition, such ill *nomenciators* that they cannot furnish appellations for their owners? *Sveift.*

NOMENCLATOR, in Roman antiquity, was a slave who usually attended upon persons that stood candidates for offices, and prompted or suggested to them the names of all the citizens they met, that they might address them by their

names, which among that people was the highest piece of civility.

NOMENTUM, an ancient town of Italy, belonging to the Sabines, famous for the total defeat of the Veientes and Fidenates, by the Romans, under the dictator Q. Servilius Priscus, A. U. C. 312. It is now called Lamentana.

NOMINAL, *adj.* } Lat. *nominales, nomino*;
NOMINALLY, *adv.* } Fr. *nominacion*. Relating
NOMINATE, *v. a.* } to names or titles;
NOMINATION, *n. s.* } real: to nominate is to
NOMINATIVE, *n. s.* } name; call upon; entitle; set down or appoint by name: nomination, the act or right of doing so: nominative, the case in grammar that designates the names of things.

Aread, old father, why of late
 Didst thou beight me born of English blood,
 Whom all a fairy's son doen *nominate*? *Spenser.*

Suddenly to *nominate* them all,
 It is impossible. *Shakspeare. Henry VI.*
 If you repay me not on such a day, let the forfeit
 Be *nominated* for an equal pound
 Of your fair flesh to be cut off. *Shakspeare.*

One lady, I may civilly spare to *nominate*, for her
 sex's sake, whom he termed the spider of the court.
Wotton.

The forty-one immediate electors of the duke, must
 be all of several families, and of them twenty-five at
 least concur to this *nomination*. *Wotton.*

The *nomination* of persons to places, being so
 principal and inseparable a flower of his crown, he
 would reserve to himself. *Clarendon.*

Profound in all the *nominal*,
 And real ways beyond them all. *Hudibras.*
 The *nominal* definition or derivation of the word is
 not sufficient to describe the nature of it. *Pearson.*

Hammond was named to be of the assembly of
 divines; his invincible loyalty to his prince, and
 obedience to his mother, the church, not being so
 valid arguments against his *nomination* as the repute
 of his learning and virtue were on the other part,
 to have some title to him. *Fell.*

The *nominal* essence of gold is that complex idea
 the word gold stands for; as a body yellow, of a certain
 weight, malleable, fusible, and fixed. But the real
 essence is the constitution of the insensible parts
 of that body on which those qualities depend.
Locke.

Never having intended, never designed any heir
 n that sense, we cannot expect he should *nominate*
 or appoint any person to it. *Id.*

Were these people as anxious for the doctrines essential
 to the church of England, as they are for the
nominal distinction of adhering to its interests?
Addison.

In England the king has the *nomination* of an arch-
 bishop; and after *nomination* he sends a congé d'elire
 to the dean and chapter, to elect the person elected
 by him. *Ayliffe.*

And betwixt the *nominate* case, which your
 lordship knows should govern the verb, he suspended
 his voice in the epilogue a dozen times, three seconds
 and three-fifths, by a stop-watch, my lord, each
 time. *Sterne.*

I can truly say that, with respect to any *nomina-
 tions* in your service of whatever description abroad
 or at home, I have never exercised any sort of inter-
 ference. *Canning.*

NOMINALS, or **NOMINALISTS**, a sect of school
 philosophers, the disciples and followers of Occam
 or Ocham, an English cordelier in the fourteenth
 century. They were vulgarly denominat-

ed Word-sellers; but had the denomination of
 Nominalists, because, in opposition to the Realists,
 they maintained that words, and not things, were
 the object of dialectics. This sect had its first
 rise towards the end of the eleventh century and
 pretended to follow Porphyry and Aristotle; but
 it was not till Ocham's time that they obtained
 the above name. The chief of this sect, in the
 eleventh century, was one John, who, on account
 of his logical subtlety, was called the sophist;
 and his principal disciples were Robert of Paris,
 Roscelin of Compiegne, and Arnoul of Laon. At
 the beginning the Nominalists had the upper
 hand; but the Realists, though greatly divided
 among themselves, were supported by men of
 great abilities; such as Albertus Magnus, T. Aquinas,
 and Duns Scotus. The Nominal sect fell hereby
 into disrepute, till William Occam, in the
 fourteenth century, again revived it, and filled
 France and Germany with disputation. Having
 joined the party of the Franciscan monks, who
 strenuously opposed John XXII., that pope and
 his successors left no means untried to extirpate
 the philosophy of the Nominalists, which was
 deemed highly prejudicial to the interests of
 the church: and hence, in 1339, the university
 of Paris, by a public edict, solemnly condemned
 and prohibited the philosophy of Occam. The
 consequence was, that the Nominalists flourished
 more than ever. In the fifteenth century the
 controversy was continued with more vigor
 and animosity than before; but in most places
 the Realists maintained a manifest superiority
 over the Nominalists. While the famous Gerson,
 and the most eminent of his disciples, were
 living, the Nominalists were in high esteem
 and credit in the university of Paris; but, upon
 the deaths of these patrons, the face of things
 was much changed. In 1473 Louis XI., by the
 instigation of his confessor, the bishop of
 Avranches, issued out a severe edict against
 the Nominalists, and ordered all their writings
 to be seized and secured, that they might not
 be read by the people; but in 1474 he mitigated
 this edict, and permitted some of the books of
 that sect to be restored. In 1481 he not only
 granted a full liberty to the Nominalists, but also
 restored that sect to its former authority in the
 university. The Nominalists were the founders
 of the university of Leipsic: and there are many
 yet abroad who pique themselves on being
 Nominalists. The Nominalists, with the Stoics,
 admit the formal conceptions or ideas of things,
 as the subject and foundation of universality;
 but to this they add names which represent and
 signify, after the same univocal manner, and
 without any distinction, a great variety of
 single things alike in genus and species. Hence
 they are called Nominals; as pretending that,
 to become learned, it is not enough to have
 just ideas of things, but it is likewise
 required to know the proper names of the
 genera and species of things, and to be able
 to express them clearly and precisely, without
 confusion or ambiguity.

The **NOMINATIVE** is the first case of nouns
 which are declinable. The simple position of a
 noun or name, *nomen*, is called the nominative
 case; yet it is not so properly a case as the
 matter or ground whence the other cases are
 to be

formed, by the several changes and inflections given to this first termination. Its chief use is to be placed before all verbs, as the subject of the proposition or affirmation.

NON, *adv.* Lat. *non*. Not. It is never used separately, but frequently prefixed to words with a negative power.

Since you to *non*-regardance cast my faith,
Live you the marble-breasted tyrant still. *Shakspeare.*

Behold also there a lay *non*-residency of the rich, which in times of peace, too much neglecting their habitations, may seem to have provoked God to neglect them. *Holyday.*

The third sort of agreement or disagreement in our ideas, when the perception of the mind is employed about, is co-existence, or *non*-existence in the same subject. *Locke.*

For an account at large of bishop Sanderson's last judgment, concerning God's concurrence, or *non*-concurrence with the actions of men, and the positive entity of sins of commission, I refer you to his letters. *Pierce.*

A mere inclination to matters of duty, men reckon a willing of that thing; when they are justly charged with an actual *non*-performance of what the law requires. *South.*

It is not a *non*-act, which introduces a custom, a custom being a common usage. *Ayliffe's Parergon.*

In the imperial chamber this answer is not admitted, viz. I do not believe it as the matter is alleged. And the reason of this *non*-admission is, its great uncertainty. *Ayliffe.*

An apparitor came to the church, and informed the parson, that he must pay the tenths to such a man; and the bishop certified the ecclesiastical court under his seal, on the *non*-payment of them, that he refused to pay them. *Id.*

This may be accounted for by the turbulence of passions upon the various and surprising turns of good and evil fortune, in a long evening at play; the mind being wholly taken up, and the consequence of *non*-attention so fatal. *Id.*

The *non*-appearance of persons to support the united sense of both houses of parliament, can never be construed as a general diffidence of being able to support the charge against the patent and patentee. *Id.*

NON'AGE, *n. s.* Non and age. Minority; time of life before legal maturity.

In him there is a hope of government;
Which in his *nonage*, counsel under him,
And in his full and ripened years, himself
Shall govern well. *Shakspeare. Richard III.*

Be love but there, let poor six years
Be posessed with the maturest fears
Man trembles at, we straight shall find
Love knows no *nonage*, nor the mind. *Crashaw.*

'Tis necessary that men should first be out of their *nonage*, before they can attain to an actual use of this principle; and withal, that they should be ready to exert and exercise their faculties. *Wilkins.*

Those charters were not avoidable for the king's *nonage*; and, if there could have been any such pretence, that alone would not avoid them. *Hale.*

We have a mistaken apprehension of antiquity, calling that so which in truth is the world's *nonage*. *Glanville.*

After Chaucer there was a Spenser, a Harrington, a Fairfax, before Waller and Denham were in being; and our numbers were in their *nonage* 'till these last appeared. *Dryden.*

In their tender *nonage*, while they spread
Their springing leaves, and lift their infant head,
Indulge their childhood, and the nursling spare. *Id.*

NONAGESIMAL, or **NONAGESIMAL DEGREE**, called also the mid-heaven, is the ninetieth degree or highest point of the ecliptic, reckoned from its intersection with the horizon at any time; and its altitude is equal to the angle that the ecliptic makes with the horizon at their intersection, or equal to the distance of the zenith from the pole of the ecliptic. It is much used in the calculation of solar eclipses. See **ASTRONOMY**, **INDEX**.

NONAGON, a figure having nine sides and angles. In a regular nonagon, or that whose angles and sides are all equal, if each side be 1, its area will be $6\sqrt{1818242} \frac{1}{2}$ of the tangent of 70° , to the radius 1.

NONCE, *n. s.* Dr. Johnson says, 'the original of this word is uncertain; Skinner imagines it to come from own or once; or from Germ. *nutz*, need or use: Junius derives it less probably from noance, to do for the nonce; being, according to him, to do it merely for mischief. But the Goth. *nonna*, Dan. *nenne*, to attempt, is the more probable etymology of Thomson Purpose; intent; design. Not now in use.

I saw a wolf
Nursing two whelps; I saw her little ones
In wanton dalliance the teat to crave,
While she her neck wreathed from them for the
nonce. *Spenser.*

When in your motion you are hot,
And that he calls for drink, I'll have prepared him
A chalice for the *nonce*. *Shakspeare. Hamlet.*

Such a light and metalled dance
Saw you never;
And they lead men for the *nonce*,
That turn round like grindle-stones.

Ben Jonson.
They used at first to fume the fish in a house built
for the *nonce*. *Carew.*

A voider for the *nonce*,
I wrong the devil should I pick their bones.
Cleveland.

Coming ten times for the *nonce*.
I never yet could see it flow but once. *Cotton.*

NONCONFORMITY, *n. s.* } Non and
NONCONFORMIST. } conformity.
Non-compliance; refusal of compliance; dis-
sentership from the established church of Eng-
land: a nonconformist is a dissenter.

Since the liturgy, rites, and ceremonies of our church, are so much struck at, and all upon a plea of conscience, it will concern us to examine the force of this plea, which our adversaries are still setting up as the grand pillar and buttress of *non-conformity*. *South.*

The lady will plead the toleration which allows her *non-conformity* in this particular. *Addison's Spectator.*

On his death-bed he declared himself a *non-conformist*, and had a fanatic preacher to be his spiritual guide. *Swift.*

The will of our Maker, whether discovered by reason or revelation, carries the highest authority with it; a conformity or *non-conformity* to it determines their actions to be morally good or evil. *Watts's Logick.*

And happy will be that reader whose mind is disposed by his verses or his prose, to imitate him in all but his *non-conformity*. *Johnson.*

NONCONFORMISTS, in English law, is considered by Mr. Justice Blackstone, as the cognate

legal term with Dissenters; for all who absent themselves, for whatever reasons, from the worship of the established church. In the article **DISSENTERS**, as more commonly used to describe the Protestants dissidents from the establishment, will be found a full account of their legal situation at the period of the commencement of our work: the article **ROMAN CATHOLICS** will be found to contain a similar account of the legal situation of the Catholic Dissenters.

We intimated at the close of the former article that the Protestant Dissenters were 'hopeful of the abrogation of all exclusive statutes on the subject of religion;' and are now happy to record that the patience with which they have waited for the final determination of the government and the country, as to the period of awarding their rights, has not been unrewarded. The great barriers to their admission to civil office, the corporation and test acts, have been repealed; and a declaration substituted, to be taken by all persons entering upon office, which they esteem almost unobjectionable. The exact form in which this important measure finally passed, and a brief history of **TEST LAW** in this country, will be found under that article.

NONE, *adj.* Sax. *ne ane*, *neone*; Goth. *ne ein*, *nein*. Not one; not any; none being formerly used before a vowel, and no before a consonant. It is now used plurally also: and often in relation to a substantive going before; as 'water we have none.'

And *noon* of hem that saten at the mete, wiste wherte he seide to him. *Wiclif. Jon. 13.*

This is *none* other but the house of God, and the gate of heaven. *Genesis xxviii. 17.*

Six days shall ye gather it, but on the sabbath there shall be *none*. *Exodus xvi. 26.*

Ye shall flee when *none* pursueth you. *Leviticus.*
Thy life shall hang in doubt, and thou shalt have *none* assurance of this life. *Deuteronomy xxviii.*

My people would not hearken to my voice, and Israel would *none* of me. *Psalms lxxxi. 11.*

That killing power is *none* of thine,
I gave it to thy voice and eyes:

Thy sweets, thy graces, all are mine;

Thou art my star, shinest in my skies. *Carew.*

In crosses, universally, let this be thy rule: make thyself *none*; escape some, bear the rest; sweeten all. *Bp. Hall.*

That fowl, which is *none* of the lightest, can easily move itself up and down in the air without stirring its wings. *Wilkins.*

Terms of peace were *none*
Vouchsafed. *Milton.*

Nor think though men were *none*

That heaven would want spectators, God want praise. *Id.*

Before the deluge, the air was calm; *none* of those tumultuary motions of vapours which the mountains and winds cause in ours. *Burnet's Theology.*

Another, which is *none* of the least advantages of hope is, its great efficacy in preserving us from setting too high a value on present enjoyments.

Addison's Spectator.

The most glaring and notorious passages, are *none* of the finest. *Felton on the Classics.*

Ah self deceived! Could I prophetic say

Who next is fated, and who next to fall,

The rest might then seem privileged to play;

But, naming *none*, the voice now speaks to all.

Cowper.

And so they seemed to roll, with furious speed,
As if *none* meant to be behind the first.

Pollok. Course of Time.

NONES, *NONE*, in the Roman kalendar, the fifth day of the months January, February, April, June, August, September, November, and December; and the seventh of March, May, July, and October. March, May, July, and October, had six days in their nones; because these alone, in the ancient constitution of the year by Numa, had thirty-one days each, the rest having only twenty-nine, and February thirty; but when Cæsar reformed the year, and made other months contain thirty-one days, he did not allot them six days of nones.

NONENTITY, *n. s.* Non and entity. Non-existence; the negation of being.

There was no such thing as rendering evil for evil, when evil was truly a *nonentity*, and no where to be found. *South.*

We have heard, and think it pity that your inquisitive genius should not be better employed, than in looking after that theological *nonentity*.

Arbuthnot and Pope.

When they say nothing from nothing, they must understand it as excluding all causes. In which sense it is most evidently true; being equivalent to this proposition, that nothing can make itself, or, nothing cannot bring its no-self out of *nonentity* into something. *Bentley.*

NONEXISTENCE, *n. s.* Non and existence. Inexistence; the state of not being; a thing not existing.

A method of many writers, which depreciates the esteem of miracles, is, to salve not only real verities, but also *nonexistences*.

Browne's Vulgar Errors.

NONJURING, *adj.* Non and Lat. *jurō*. Particularly applied in English history to those who would not swear allegiance to the Hanoverian family.

This objection was offered me by a very pious, learned, and worthy gentleman of the *nonjuring* party. *Swift.*

NONJURORS, those who refused to take the oaths to government, and who were in consequence under certain incapacities, and liable to certain severe penalties. The members of the episcopal church in Scotland were long denominated nonjurors; but upon the death of prince Charles Stuart, in 1788, their bishops, and the great majority of the people, avowed their attachment to the present royal family, and resolved to pray for his majesty king George III.

NONIUS (Marcellus), a grammarian and peripatetic philosopher, born at Tivoli, who wrote a treatise, entitled *De Proprietate Sermonum*. This author is valuable for giving fragments of ancient authors nowhere else to be found. His treatise was printed at Paris, in 1614, with notes.

NONIUS (Peter), in Spanish Nunez, a learned Portuguese, and one of the ablest mathematicians of the sixteenth century, was born at Alcazer. He was preceptor to prince Henry, king Emmanuel's son, and taught the mathematics in the university of Coimbra. He published the following works, by which he gained great reputation:—1. *De Arte Navigandi*. 2. *Annotationes in Theorias Planetarum Purbachii*.

3. A *Treatise de Crepusculis*. 4. A *Treatise on Algebra*. It is observed in *Furetiere's Dictionary*, that Peter Nonius, in 1530, first invented the angles of 45° made in every meridian, and that he called them rhumbs, and calculated them by spherical triangles. Nonius died in 1577, aged eighty.

NONNATURALIS, n. s. Lat. *non naturalia*. Physicians reckon these to be six; viz. air, meat and drink, sleep and watching, motion and rest, retention and excretion, and the passions of the mind.

These six *nonnaturalis* are such as neither naturally constitutive, nor merely destructive, do preserve or destroy according unto circumstances. *Browne*.

NONNIUS, or NONIUS (Lewis), a learned physician of Antwerp, in the seventeenth century, who wrote several works which are esteemed; the principal are, 1. An excellent treatise entitled *Ichthyophagia, sive de Piscium esu*. 2. *Hispania*; useful for understanding the ancient geography of Spain. 3. A Commentary on the Medals of Greece, and those of Julius Cæsar, Augustus, and Tiberius, in folio; it contains Goltzius's Two Words on the same subject. 4. A Commentary on Goltzius's Account of Greece, the islands, &c. 5. Poems, &c.

NONPAREIL, n. s. Non and French *pareil*. Excellence unequalled.

My lord and master loves you: O such love
Could be recompensed, though you were crowned
The *nonpareil* of beauty. *Shakspeare. Twelfth Night*.

NONPLUS, n. s. & v. a. Non and Lat. *plus*, more. Inability to do or say more; state of puzzle or perplexity; to confound, puzzle, or put to stand.

His parts were so accomplisht,
That right or wrong he ne'er was *nonplust*.

Hudibras.

Nor is the composition of our own bodies the only wonder; we are as much *nonplust* by the most contemptible worm and plant. *Glanville's Scepis*.

What, you are confounded, and stand mute!
Somewhat *nonplust* to hear you deny your name.

Dryden.

One or two rules, on which their conclusions depend, in most men have governed all their thoughts; take these from them and they are at a loss, and their understanding is perfectly at a *nonplust*. *Locke*.

Tom has been eloquent for half an hour together, when he has been *nonplust* by Mr. Dry's desiring him to tell what it was that he endeavoured to prove.

Spectator.

That sin that is a pitch beyond all those, must needs be such an one as must *nonplust* the devil himself to proceed farther. *South*.

Such an artist did not begin the matter at a venture, and, when put to a *nonplust*, pause and hesitate which way he should proceed; but he had first in his comprehensive intellect a compleat idea of the whole organical body. *Bentley*.

NONRESIDENCE, n. s. } Non and resi-
NONRESIDENT. } dence. Failure of residence: he who so fails or neglects to reside at his proper place.

If the character of persons chosen into the church had been regarded, there would be fewer complaints of *nonresidence*. *Swift*.

As to *nonresidence*, there are not ten clergymen in the kingdom who can be termed *nonresidents*. *Id.*

NONRESISTANCE, n. s. Non and resistance. The principle of not opposing some superior or established power: applied particularly in English history to the principle of not opposing the arbitrary measures of the Stuarts.

NONSENSE, n. s. } Non and sense. Un-
NONSENSICAL, *adj.* } meaning, or ungrammatical language.

'Till understood, all tales,

Like *nonsense*, are not true or false. *Hudibras*.

Many copies dispersed gathering new faults, I saw more *nonsense* than I could have crammed into it. *Dryden*.

They had produced many other inept combinations, or aggregate forms of particular things, and *nonsensical* systems of the whole.

Ray on the Creation.

This *nonsense* got into all the following editions by a mistake of the stage editors.

Pope on Shakspeare.

What's the world to him?

'Tis *nonsense* all.

Thomson.

NONSOLUTION, n. s. Non and solution. Failure of solution.

Athenæus instances ænigmatical propositions, and the forfeitures and rewards upon their solution and *nonsolution*. *Broom*.

NONSPARING, adj. Non and sparing. Merciless; all destroying.

Is't I expose

Those tender limbs of thine to the event

Of the *nonsparing* war?

Shakspeare.

TO NONSUIT, v. a. Non and suit. To deprive of the benefit of a legal process for some failure in the management.

The addresses of both houses of parliament, the council, and the declarations of most counties and corporations, are laid aside as of no weight, and the whole kingdom of Ireland *nonsuited*, in default of appearance. *Swift*.

NOODT (Gerard), an eminent civilian, born at Nimeguen in 1647, where he was chosen professor of law in 1671. He was afterwards appointed professor at Franeker; and at Utrecht in 1684; but in 1686 became rector of the university of Leyden. He published a collection of his works on law, in 1713, 4to. and died in 1725.

NOOK, n. s. Teut. *een hoeck*; or Belg. *ein hoek*. A corner; a covert made by an angle or intersection.

Buy a foggy and a dirty farm
In that *nook* shotten isle of Albion.

Shakspeare.

Safely in harbour

Is the king's ship, in the deep *nook*, where once
Thou caldest me up. *Id. Tempest*.

The savages were driven out of their great Ards, into a little *nook* of land near the river of Strangford; where they now possess a little territory. *Davies*.

Meander, who is said so intricate to be,
Hath not so many turns, nor cranking *nooks* as he. *Drayton*

Thus entered she the light excluding cave,
And through it sought some inmost *nook* to save
The gold. *Chapman*.

Ithuriel and Zephor,
Search through this garden, leave unsearched no *nook*. *Milton*

A third formed within the ground
A various mold; and from the boiling cells,
By strange conveyance, filled each hollow *nook*.
Id.

Unsphere

The spirit of Plato to unfold
What worlds or what vast regions hold
The immortal mind that hath forsook
Her mansion in this fleshy *nook*. *Id. Poems.*

Thee I account still happy, and the chief
Among the nations, seeing thou art free;
My native *nook* of earth! *Cowper*

Stung with the loss, into a thoughtful cast
He throws his face, and rubs his vexed brow;
Searches each *nook* and corner of his soul
With frequent care; reflects, and re-reflects,
And tries to touch relations that may start
The fugitive again. *Pollak.*

NOON, *n. s. & adj.* } Sax. non; Goth.
NOONDAY, *n. s.* } non; Wel. *nawn*, sup-

NOONTIDE, *n. s. & adj.* } posed to be derived
from Lat. *nona*, the ninth hour, at which the
cena, or chief meal, was eaten; whence the other
nations called the time of their dinner, or chier
meal, though earlier in the day, by the same
name.—Dr. Johnson. A particular hour of
church service was also called *nona hora* by the
Christian Goths, and thence the Goth. *non* was de-
rived.—Thomson. The middle hour of the day;
the time when the sun is in the meridian; mid-
day; twelve o'clock in the day. Midnight has
been poetically called the noon of night: noon-
day and noon-tide alike signify the middle of the
day: the time of noon.

Fetch forth the stocks, there shall he sit till *noon*,
'Till *noon*! till night, my lord. *Shakspeare.*

Sorrow breaks seasons and reposing hours,
Makes the night morning, and the *noontide* night.
Id.

The bird of night did sit,
Even at *noontide*, upon the market-place,
Hooting and shrieking. *Id. Julius Cæsar.*

All things in best order to invite
Noontide repast, or afternoon's repose. *Milton.*

The dimness of our intellectual eyes, Aristotle fitly
compares to those of an owl at *noontide*. *Boyle.*

The day already half his race had run,
And summoned him to due repast at *noon*.
Dryden.

Full before him at the *noon* of night
He saw a quire of ladies. *Id.*

If I turn my eyes at *noon* towards the sun, I can-
not avoid the ideas which the light or sun produces
in me. *Locke.*

The scorching sun was mounted high,
In all its lustre to the *noontide* sky.
Addison's Ovid.

We expect the morning red in vain;
'Tis hid in vapours, or obscured in rain.
The *noontide* yellow we in vain require;
'Tis black in storm, or red in lightning fire.
Prior.

How oft the *noon*, how oft the midnight bell,
That iron tongue of death! with solemn knell,
On folly's errands, as we vainly roam,
Knocks at our hearts, and finds our thoughts from
home! *Young.*

In days of poverty his heart was light:
He sung his hymns at morning, *noon*, and night.
Harte.

But now at *noon*

Upon the southern side of the slant hills,
And where the woods fence off the northern blast,
And has the warmth of May. *Cowper.*

NOORABAD, a town of the province of
Agra, Hindostan, pleasantly situated on the
south bank of the Sank. Adjoining this place
is a large garden, planned out by the emperor
Aurungzebe, within which is the tomb of his
favorite wife, Ghoona Begum, celebrated for her
poetical compositions. The inscription on the
tomb is Alas! alas! Ghoona Begum! The
country in the vicinity has many small forts.
Long. 78° 6' E., lat. 26° 25' N.

NOOSE, *n. s.* Swed. *knusse*; Lat. *nodus*.
A running knot, which the more it is drawn
binds the closer.

Can'st thou with a weak angle strike the whale?
Catch with a hook, or with a *noose* intrhal?

Sandys.
The sin is woven with threads of different sizes,
the least of them strong enough to *noose* and entrap
us. *Government of the Tongue.*

They run their necks into a *noose*,
They'd break 'em after, to break loose.

Hudibras.
Falsely he falls into some dangerous *noose*.
And then as meanly labours to get loose. *Dryden.*

A rope and *noose* are no jesting matters.
Arbutnot's John Bull.

NOOTKA, the country on the north-west
coast of North America, round Nootka Sound.
Upon the coast the land is tolerably high and
level; but within the sound it rises into steep
hills, which have a uniform appearance. The
climate is remarkably mild. Captain Cook
found that the thermometer never fell lower even
in the night than 42°, while in the day time it
often rose to 60°. The trees of which the woods
are composed are the Canadian pine, white
cypress, and some other sorts of pine. The
trees grow here with great vigor, and are of a
large size. About the rocks and borders of the
woods are strawberry plants; and raspberry,
currant, and gooseberry bushes. The principal
animals are racoons, martens, and squirrels.
Birds are not numerous, and are remarkably shy,
owing to their being continually harassed by the
natives for the sake of their feathers as well as
for food. The quebrantahuesos, shags, and
gulls, were seen off the coast; and the last two
were also frequent in the sound. The principal
sorts of fish are herrings and breams, one spe-
cies silver-colored, and another brown. Captain
Cook and Dr. King consider it as an excellent
shelter for ships. The natives are in general
robust and well proportioned; their faces large
and full, their cheeks high and prominent, with
small black eyes; their noses broad and flat,
their lips thick, and they have generally very
fine teeth, and of the most brilliant whiteness.
The manner in which the children are treated,
when young, is not more extraordinary from its
strange and total inutility, than from its agree-
ment with the customs of the Chinese and
Tartars. The head of the infant is bound
by the mother with a kind of fillet of several
folds, as low down as the eyes, in order to give
it a certain form; yet we never observed that
any of the infants, in such a state of prepara-
tion for sugar-loaf heads, suffered any visible
pain or inconvenience: and though the custom
of compressing the head in this manner gives

them an unpleasant appearance, by drawing up the eye-brows, and sometimes producing squinting, as well as flattening the nose and distending the nostrils, they are by no means an ill-looking race of people. They have also the custom, which prevails in many Indian nations, of plucking out the beard by the roots. Some of them, however, when they become old and infirm, suffer their beards to grow without interruption. But, notwithstanding they have so great an aversion to the hair of their chin, that of the head is an object of their attentive vanity; it is strong, black, and glossy, grows to a considerable length, and is either tied in a kind of knot on the top of their heads, or suffered to hang down their backs in flowing negligence. In their exterior form they have not the symmetry found in many other Indian nations. Their limbs, though stout and athletic, are crooked and ill-shaped; their skin is white; and we have seen some of the women, when in a state of cleanliness, who not only possessed the fair complexion of Europe, but features that would have attracted notice, for their delicacy and beauty. But these examples of beauty are not numerous. Their hair and eyes are black; they are reserved and chaste; and examples of loose and immodest conduct were very rare among them. There were women in St. George's Sound whom no offers could tempt to meretricious submissions. All accounts agree in characterising the inhabitants as a very inoffensive race; yet cannibalism prevails among them; for, together with many other articles which they exposed for sale to captain Cook's ships, they brought human skulls and hands (part of the flesh still remaining on them), which they acknowledged they had been feeding on; and some of them had evident marks of the fire. As there are but two villages of Nootka inhabited, the number of people cannot be great; perhaps about 2000 in all. The employment of the men is chiefly fishing, &c., whilst the women manufacture their garments. Their ingenuity in this and in the mechanic arts is far from being inconsiderable; and in the imitative arts their skill is very great. Captain Cook says, 'Little knowledge we can be supposed to have acquired of the political and religious institutions established among these people. We discovered, however, that there are such men as chiefs, distinguished by the title of *acweek*, to whom the others are, in some degree, subordinate. But the authority of each of these great men seems to extend no farther than to his own family, who acknowledge him as their head. Nothing that we saw could give us any insight into their notions of religion, except the figures called *Klumma*. These, perhaps, were idols; but, as the word *acweek* was frequently mentioned when they spoke of them, they may be images of some of their ancestors, whose memories they venerate. Their language is neither harsh nor disagreeable, farther than proceeds from their pronouncing the *k* and *h* with less softness than we do. The affinity it may bear to other languages we have not been able to trace, not having proper specimens to compare it with; but, from the few Mexican words we have pro-

cured, there is an obvious agreement in the frequent termination of the words in *l*, *tl*, or *x*. The word *wakash* was frequently in the mouths of the people of Nootka. It seemed to express approbation, applause, and friendship.' A small association of British merchants resident in the East Indies, had, early in 1786, formed the project of opening a trade hither, for supplying the Chinese market with furs. The principal point towards which these expeditions were directed was Nootka; and the adventurers, being satisfied with their traffic, took measures, in 1788, to secure a permanent settlement; at the same time that the shipping employed in this expedition was generally two, and never exceeded four small vessels. But the Spaniards, jealous of the intrusion of the English into a part of the world which they had long regarded as their exclusive property, sent a frigate of twenty-six guns, under Don Martinez, from Mexico, to put an end to this commerce. The frigate arrived in May, 1789, and captured two English vessels in July following, at the same time taking possession of the settlement formed on the coast. This had almost involved us in an expensive war. Happily, however, for both countries, the matter was at length, after great altercation, amicably settled by a convention in 1790, by which the British were allowed a free navigation and commerce with the people of Nootka.

NOPAL, *raquette*, or Indian fig, a plant so named by the Indians, from which the cochineal is collected in Mexico. These plants bear fruits which resemble our figs; tinge the urine of those who eat them; and probably communicate to the cochineal the property which makes it useful to the dyer. The Indians of Mexico cultivate the nopal tree near their habitations. They make small nests of moss or fine herbs; put twelve or fourteen cochineals into each nest; place three or four of these nests on each leaf of the nopal; and fasten them there by the prickles of the plant. In the course of a few days thousands of insects issue out, and fix themselves upon the parts of the leaf which are best sheltered and afford the most nourishment. The cochineals are collected several times in the course of the year; and are deprived of life by scalding them, or by putting them into an oven. See *Zoccus*.

NOR, *conjunct*. Ne or. A particle of negation marking the second or subsequent branch of a negative proposition; correlative to neither or not. Two negatives are sometimes joined, but NOT according to the propriety of our present language, though rightly in the Saxon; and neither is sometimes included in *nor*, but not elegantly.

I neither love, *nor* fear thee. *Shakspeare.*

Mine eyes,

Which I have darted at thee, hurt thee not;

Nor, I am sure there is no force in eyes

That can do hurt.

Id. As You Like It.

Before her gates, hill wolves and lions lay;

Which with her virtuous drugs so tame she made,

That wolf, *nor* lion, would one man invade.

Chapman.

Idle nymph, I pray thee, be

Modest, and not follow me,

I *nor* love myself, *nor* thee. *Ben Jonson.* §

Power, disgrace, nor death could ought divert
Thy glorious tongue thus to reveal thy heart.

Daniel.

Nor did they not perceive their evil plight,
Or the fierce pains not feel.

Milton.

Neither love will twine, nor hay.

Marvel.

Simois nor Xanthus shall be wanting there;
A new Achilles shall in arms appear.

Dryden.

But how perplex, alas! is human fate;

I whom nor avarice, nor pleasures move;
Yet must myself be made a slave to love.

Walsh.

But happier far, who comfort those that wait
To hear plain truth at Judah's hallowed gate:
Their language simple, as their manners meek,
No shining ornaments have they to seek;
Nor labour they, nor time, nor talents waste,
In sorting flowers to suit a fickle taste.

Cowper.

NORBERG (George), a Swedish historian, was born at Stockholm in 1677, and having studied at Upsal, entered into the church, and in 1703 became almoner to the army. In 1707 he was made almoner and chaplain to the king, with whom he was at the battle of Pultowa. Having been sent to Russia, with count Piper, he was not liberated till 1715, when he joined his royal master in Pomerania. Soon after he was appointed minister of a church at Stockholm, where he died in 1744. Norberg was a celebrated pulpit orator, and published many funeral discourses, but his history of Charles XII. is his chief work. The materials which he used were partly furnished by the Swedish government, and the manuscript was corrected by queen Ulrica Eleonora, the sister of that monarch. It was published at Stockholm, 1740, 2 vols. folio; and a French translation appeared at the Hague in 1742, 3 vols. 4to.

NORCIA, a town in the states of the church, and delegation of Spoleto, on the Freddara. In 1730 it suffered severely by an earthquake. Population 4000. Seventy miles N. N. E. of Rome.

NORD, DEPARTMENT DU, France, is formed of the former province of French Flanders, of French Hainault and Cambray, and takes its name from its topographical situation, being in the northern part of the kingdom. The principal place of this prefecture is Lille, and it consists of seven arrondissements or subprefectures, Lille containing 261,949 inhabitants; Avesnes 115,867; Cambray 133,821; Douay 105,493; Dunkirk 90,435; Hazebrouck 100,901, and Valenciennes 87,278; being a total population of 895,744 souls, on an area of 2502 square miles, and yielding a territorial revenue of 44,206,000 francs. It is subdivided into sixty cantons, and 660 communes, and is the sixteenth military division, having a royal court at Douay, and a bishopric at Cambray. It contains eight electoral arrondissements, which send twelve members to the chamber of deputies. This department is bounded on the north by the sea, which separates it from England; on the east by the kingdom of the Netherlands; on the south by the department of the Aisne, and on the west by that of the Pas-de-Calais.

The surface of the country presents, through all its extent, vast and fruitful plains, covered with the richest productions of agriculture. Every variety of corn, vegetables, fodder for cattle, and

oleaginous plants, are cultivated with the greatest success. Populous towns, some of them strongly fortified; numerous boroughs and villages; and many different manufactures, also overspread this department; which, although it is one of the finest and best cultivated in France, yet scarcely produces sufficient for its swarming population. The pastures are very superior, and feed numbers of horned cattle and sheep, and noble horses. The vine is not cultivated at all here; there is scarcely wood enough for the consumption; but the inexhaustible mines of coal, which are worked in several parts, supply this deficiency. The collieries of Anzin are the most considerable in France; there are others also, the produce of which is very considerable, and it is said that not less than 6,000,000 quintals are furnished annually by all the mines of this department, which is bounded on the sea-coast by downs, the barrenness of which is singularly contrasted with the fertility of the other parts.

Without incessant draining the waters would still cover much of the land. Several large canals serve to draw them off from the fields, and at the same time facilitate the communication between the different towns. The cultivation is chiefly by horses. Of forest (chiefly oak, elm, and white wood) there are 57,051 hectares, and the average produce is about 69 frs. 56 cts. per hectare of arable land. Besides the productions already mentioned, various sorts of flax are cultivated, also much hemp, the best tobacco in France, endive, hops, wood, beans, and asparagus. There is a great abundance of small game, fresh and salt-water fish, merino sheep and pigs, but few bees, numerous nurseries of fruit, forest and exotic trees, mines of iron and coal, and quarries of marble, freestone, gray paving stone, potters' clay, and turf. Manufactures are carried on here of bleached and unbleached linen, table linen, cambrics, lawns, camblets, flannels, lace, cloths, woollen stuffs, calicoes, printed cottons, handkerchiefs, mattress cloth, sewing thread, and thread for lace, combed wool, cards for wool and flax, white lead, drawing pencils, toys, and works in marble. There are also numerous distilleries of brandy, sugar and salt refining houses, large brass foundries, bleaching grounds, dye-houses, oil mills, cotton and linen yarn factories, forges, blast furnaces, nail manufactories, glass-houses, paper mills, delf and china factories, tile and brick kilns, marble sawing mills, rope grounds, tan yards, and curriers' shops; besides royal establishments for the manufacture of tobacco, the refining of saltpetre, the casting of cannon, and the making of arms. A considerable trade is carried on in all the above articles; there is also much done in the whale and cod fishery, as well as in that of herrings and different sorts of fresh fish, and in the coasting business.

This department is intersected by the Escaut or Scheldt, the Lys, the Scarpe, the Sambre, the Aa, the Colme, the Lawe, the Bourre, and the Hayne, navigable here; and by the canals of St. Omer, Bourbourg, Dunkirk, St. Quentin, Bergues, Préavin, the Bourre, the Nieppe, the Sensée, the Hayne, and the Upper and Lower Deule. Besides these, a great number of smaller

streams water and fertilise this rich territory. It is traversed by the great roads of Brussels, Arras, Boulogne, and Dunkirk.

NORDEN, a town of East Friesland, Hanover, about two miles from the North Sea. It has a small but good harbour, and is the oldest town of the province. Inhabitants 3100. Fifteen miles north of Embden.

NORDEN (Frederic Lewis), F. R. S., an ingenious traveller and naval officer in the Danish service, born at Gluckstadt in Holstein in 1708. He was well skilled in mathematics, ship-building, and architecture; and in 1732 obtained a pension to travel for the purpose of studying the construction of ships, particularly the galleys and other rowing vessels used in the Mediterranean. He spent near three years in Italy; and Christian VI. being desirous of obtaining a circumstantial account of Egypt, Mr. Norden at Florence received an order to extend his travels to that country; which he executed so much to that monarch's satisfaction that he made him a captain and commissioner in the navy. His *Travels into Egypt and Nubia* were printed at Copenhagen in folio, 1756, and soon after translated into English by Dr. Peter Templeman. In the war between England and Spain, captain Norden attended count Ulric Adolphus, a sea captain, to England; and they went out as volunteers under Sir John Norris, and afterwards under Sir Chaloner Ogle. During his stay in London, Mr. Norden was made F. R. S. and published drawings of some ruins and colossal statues at Thebes in Egypt, with an account of them in a letter to the Royal Society, in 1741. Taking a tour to France, he died in Paris in 1742.

NORDHAUSEN, a town of Prussian Saxony, on the north side of the Hartz Mountains, in the government of Erfurt, on the river Zorge. It is fortified with a wall and towers, and built in the style of the middle ages, containing one Catholic and seven Lutheran churches, an orphan house, and three hospitals. The chief occupation is the distillation and sale of spirits: 200 stills are said to consume annually 300,000 bushels of corn, and the value of the spirits sent out of the town for sale is about £60,000 exclusive of duty; while nearly 1000 head of cattle, and 10,000 swine, are fed on the refuse. Here are also oil-mills, which prepare oil to an annual value of £30,000 or £40,000; tanneries; and, on a smaller scale, manufactures of woollen, linen, hardware, and soap. The marble from the adjacent district of Hohenstein is made into a number of different articles. Population 9000. Thirty-seven miles east of Gottingen.

NORDPOKING, **NORKOPING**, or **NORDKOPING**, a town of East Gothland, Sweden, on the river Motala. It stands after Stockholm on the greatest extent of ground of any town in the kingdom. Its population, however, is only about 9000. Well situated for trade, and having a commodious quay, the manufacturing establishments are various, viz. for iron and brass-ware, fire-arms, and leather; also for woollens, tobacco, and paper. There is in the river a good salmon fishery. The public buildings are respectable, and the town not ill built. Seventy-six miles south-west of Stockholm.

NORDLINGEN, an old manufacturing town of Germany, annexed to the Bavarian dominions in 1802. Leather and woollen are its chief factories; but corn and feathers, from the neighbourhood, are large articles of commerce. Thirty-six miles N. N. W. of Augsburg, and thirty-six N. N. E. of Ulm. Long. 10° 28' 30" E., lat. 48° 51' N.

NORES (Jason de), a scholar, poet, and philosopher, born at Nicosia in Cyprus. He lost his fortune when the Turks took that island in 1570. He retired to Padua, where he acquired great reputation by teaching moral philosophy; but his character had a cast of severity. Nores attacked the Pastor Fido of Guarini, who confuted him in a piece printed at Ferrara in 1588. Nores made a reply in 1590; and the poet was preparing an answer still more severe, when Nores died of grief for the banishment of his only son, for having killed a Venetian in a duel. He left behind him many works. The chief of his Italian works are, 1. *The Poetics*, Padua, 1588, 4to. 2. *A Treatise on Republics*, 1578, 4to. 3. *A Treatise on the World and its Parts*, Venice, 1571, 8vo. 4. *Introduction to three books of Aristotle's Rhetoric*, Venice, 1584, 8vo. His Latin works are, 1. *Institutio in Philosophiam Ciceronis*, Padua, 1576, 8vo. 2. *Brevis et distincta summa præceptorum de arte descendi, ex libris Ciceronis collecta*, Venetia, 1553, 8vo. 3. *De Constitutione partium humanæ et civilis philosophiæ*, 4to. 4. *Interpretatio in artem poeticam Horatii*, &c.

NORFOLK. This county, anterior to the Roman invasion, formed part of the district inhabited by the warlike Iceni, who, with queen Boadicea at their head, made such dreadful havoc among the invading troops. The sequel is well known. The Danes made several barbarous incursions into Norfolk, in one of which Sweyn king of Denmark burnt the cities of Norwich and Thetford. Its name is of Saxon origin, it having formed the northern district of East Anglia. It was therefore denominated Nordfolke, the residence of the northern folk, by contraction become Norfolk.

Norfolk is a maritime county, bounded on the north and east by the German Ocean, on the south by Suffolk, and on the west by Cambridgeshire. Mr. Kent makes the greatest length from east to west fifty-nine miles, and its greatest breadth from north to south thirty-eight; containing, according to Mr. Young, 1830 square miles. It is divided into thirty-three hundreds, containing one city, four sea-ports (two large, and two small), twenty-five other market-towns, and, as it is said, 756 parishes. Of the *climate*, Mr. Young remarks, that there are several points of the compass from which the north and north-east winds blow more directly on this county than on any other. A later writer, the Rev. J. h Evans, observes that from the situation of this county, parts of it being exposed to the ocean and others to a large extent of marsh-land, the air is extremely cold in winter and at the early part of spring. The contiguity to the sea and the marshes, with the vapors brought from Holland, accounts for the frequent rains during the summer months. In Marshland, and in the other fenny

parts of the county, the air is not only cold but exceedingly damp, and the inhabitants are subject to intermitting fevers. The country to the north and north-west of Thetford, forming the greater part of Norfolk, consisting of a sandy or gravelly soil, is peculiarly salubrious and pleasant. Mr. Young's map of the soils of Norfolk thus delineates them:—the largest portion, containing 576,000 acres, extending from the borders of Suffolk on the south almost across the county north, and from Necton, in Wayland hundred, west, to a few miles beyond the city of Norwich east, as also a patch between Stoke and Lynn Regis, consists of 'various loams.' A district consisting of 'good sand' extends along nearly the whole of the northern border of the county, and, branching into the interior a little beyond Castle Acre, contains altogether 268,800 acres. Light sand principally obtains on the south and south-west extremities of the county, occupying about 140,800 acres. Rich loam is found in a small district on the eastern border, containing about 94,720 acres. Peat is found in a small patch, containing 52,480 acres, on the east and south-east border; and a still less patch, and also more easterly, consists of marshland clay, being about 38,400 acres. Norfolk ranks very high as a farming county: this may in part be owing to the comparative poverty of its soil, which has called forth all the skill and industry of its cultivators. The soil in general is more adapted to the growth of barley than of wheat, yet the hundreds of Blofeld and Flegg, on the east side of the county, and some few other districts, yield an excellent sample of the latter. The turnip crop is considered to be the basis of good husbandry; to consume which, immense droves of black-cattle are constantly coming from the Highlands of Scotland, for which there is a weekly market at Norwich, and one every fortnight at Setch. The wools grown in this county are chiefly consumed in Yorkshire in the manufacture of inferior cloths, while those of Lincolnshire and Leicestershire are used in the Norwich manufactory of camlets and other thin stuffs.

The principal rivers of Norfolk are the Great Ouse, the Little Ouse, the Waveney, the Bure, the Wensum, the Yare, and the Nar. The Great Ouse rises near Brackley in Northamptonshire, and after passing through several counties it divides Cambridgeshire from Norfolk, and falls into the sea at Lynn Regis. The Little Ouse, or Brandon River, rises near Lopham, divides Suffolk from this county, and empties itself into the Greater Ouse. The Waveney, which separates Norfolk and Suffolk on the eastern side, also rises at Lopham, after which it joins the Yare, forming the water called Bradan, near Yarmouth, where it falls into the sea. The Bure rises in the north of the county, becomes navigable at Aylsham, and joins the Yare in Bradan. The Wensum rises at West Rudham, runs through Norwich, and falls into the Yare a little below that city. The Yare rises near Attleborough, becomes navigable at Norwich, and falls into the sea at Yarmouth. The Nar rises at Nitcham, is navigable to Narborough, and falls into the Great Ouse. Inland navigation, except by means of these navigable rivers, is not either much encouraged or much wanted. There is, however, a canal

from Wisbeach in Cambridgeshire, to Outwell Creek and Salter's Load in this county, an extent of about six miles. There is a medicinal spring at Thetford.

This county produces cows 'approaching to the Alderney,' but larger; fine short-wooled sheep in great abundance; pigs of a prolific breed; poultry of all kinds, and of a very superior quality, particularly Turkeys, of which many tons weight are annually, at Christmas, sent to London; rabbits in large quantities; and game of almost every description, particularly pheasants. Here is also found the otis tarda, or great bustard, as also the strix otus curtatus, or short-eared long-winged owl. Hooded crows and land-pipers, called ruffs and rees, as they are male or female, are also occasionally found in Norfolk. This county is well supplied with fresh and salt-water fish of various kinds, particularly perch in the rivers, and mackerel and herring on the coast of the North Sea, which also furnish plenty of crabs and lobsters. There are but very few mineral or fossil productions in this county. The chalk-pits yield abundance of material for the manufacture of gun-flints, and the red sand stone makes its appearance at the north-west.

The principal manufactures of Norfolk consist of woven goods. Worsted, a name originally derived from the village of that name, dormics, cameries, and calcetics, were formerly manufactured in this county. They were followed by druggets, serges, crapes, shalloons, duffields, &c. These again, the latter excepted, have been superseded by camlets, camlettees, callimancoes, moreens, bombazeens, poplins, plain and flowered damasks, shawls, and a great variety of fancy articles, most of which are manufactured from wool, mohair, and silk, by different intermixtures and curious combinations. Norwich takes the lead in this trade; and of late the weaving of cotton articles is carried on there to some extent. Stockings are knitted at Diss, Wymondham, and Hingham. Till within about twenty years, it was estimated that 1000 guineas were weekly carried out of Norwich to pay for spinning-work done within the county of Norfolk by the poor villagers, who were perhaps the only persons in England who still retained the ancient mode of spinning with the distaff. The high perfection to which machinery has been carried has now almost totally supplanted the spinning by hand; and the Norwich manufactures are supplied with yarns from the mills of Yorkshire, Lancashire, and Durham. Norfolk supplies the central parts of the kingdom with coals, wine, timber, groceries, &c. The chief part of the commercial concerns of the county are transacted at Lynn and Yarmouth.

This county sends twelve members to parliament: viz. four for the county, two for the city of Norwich, two for Yarmouth, two for Thetford, and two for King's Lynn.

Norfolk is prolific in biographical materials. The following list will convey a tolerably correct proof of the justness of this observation. A bare list of names is all that the limits of this work can afford. Alan, of Lynn, a theological writer of the fifteenth century.—J. Aylmer, divine.—Wm. Ames, Puritan divine.—J. Baconthorpe, a learned monk.—Wm. Bateman, called

William de Norwico, a learned prelate.—Beaupre Bell, antiquary.—Robert Brady, M. D.—Edward Browne, M. D.—The learned and ingenious Dr. Samuel Clarke, polemical divine.—Sir Edward Coke, judge.—Wm. Cunningham, M. D.—John Cosin, a learned divine.—Ralph de Diceto, dean of St. Paul's, Temp. Hen. II.—Walter of Diss, a learned friar.—Sir John Fastolf, a famous general.—Sir John Fenn, antiquary.—Sir Andrew Fontaine, of Narborough, antiquary.—Thomas Harmer, a learned dissenting divine and biblical critic.—Henry Headley, an ingenious poet.—The learned prelate Dr. Thomas Herring.—J. Ives, antiquary.—John Kaye, or Caius, physician.—Edward King, a learned writer and antiquary.—Thomas Legge, antiquary and dramatic writer.—Sir Roger L'Estrange, a political writer and translator.—Dr. Roger Long, divine and astronomer.—Thomas Martin, F. A. S., antiquary and topographer.—The immortal Horatio viscount Nelson.—Sir Wm. Neve, antiquary, herald, &c.—Matthew Parker, archbishop of Canterbury.—Thomas Paine, the infidel political writer.—The late learned and critical Greek scholar, professor Richard Porson.—Sir Thomas Richardson, chief justice of the court of common pleas.—The ingenious and amiable Robert Robinson, divine.—Rev. Dr. Thomas Soames, a distinguished royalist.—Thomas Shadwell, poet laureat, dramatic writer, and historiographer.—Sir Henry Spelman, historian and antiquary.—Benjamin Stillingfleet, son of Bishop Stillingfleet, naturalist and poet.—Henry Swindon, antiquary and topographer.—Thos. Skelton, comic poet of Diss.—Robert Walpole, earl of Oxford, statesman and political writer.—Henry Wharton, divine and historian.—Arthur Wilson, historian and dramatic writer.—The late Right Hon. William Windham, statesman.

NORFOLK, a county of Massachusetts, United States, bounded north-west and west by Middlesex county, east by Boston Harbour, south by Plymouth and Bristol counties, and west by Rhode Island and Worcester county. Chief town Dedham.

NORFOLK, a county of the south-east part of Virginia, United States, bounded north by Hampton Road and Chesapeake Bay, east by princess Anne county, south by North Carolina, and west by Nansemond county. Chief towns, Norfolk and Portsmouth.

NORFOLK, a borough and port of entry of the United States, in the above county, Virginia, on the north-east bank of Elizabeth River, eight miles above its entrance into Hampton Road. It contains a court-house, jail, market-house, theatre, academy, orphan asylum, Lancasterian school, atheneum, and six churches for Episcopalians, Presbyterians, Baptists, Roman Catholics, and Methodists. The ground on which it is built is level, low, and marshy, and many of the streets are irregular and crooked: the principal ones, however, are paved, kept clean, and well lighted. Two or three of the churches are neat, but none of them have steeples. The Farmers' Bank is a large and respectable structure. The orphan asylum supports about twenty children, and is an elegant brick building. This town is said to afford much agreeable society, and the inhabitants are distinguished for hospitality. It has

more foreign commerce than any other town in the state. The harbour is nearly a mile wide, and is safe and commodious. It is defended by three forts. About a mile from Norfolk, or Washington point, between the east and west branches of the river, there is a marine hospital. Population 9193. 112 miles by water below City point, and 112 E. S. E. of Richmond.

NORFOLK BAY is a deep bay, which runs to the eastward from North Bay, on the east coast of Van Diemen's Land.

NORFOLK ISLAND, an island of the South Sea, lying in lat. 29° 12' 30" S., and long. 168° 16' E. A colony was once settled on it; and the following account of it is given in Governor Phillips's Voyage to Botany Bay:—'Norfolk Island is about seven leagues in circumference; and, if not originally formed by the eruption of volcanic matter, must have contained a volcano. This conclusion is formed from the vast quantity of pumice-stone scattered in all parts of it, and mixed with the soil. The crater, or some traces of it, will be found at the summit of a mountain, near the middle of the island, which the commandant has named Mount Pitt. The island is well watered. At or near Mount Pitt rises a strong and copious stream, which, flowing through a very fine valley, divides into several branches, each of which may be used in turning mills; and in various parts of the island springs have been discovered. The climate is pure, salubrious, and delightful, preserved from oppressive heats by constant breezes from the sea, and of so mild a temperature throughout the winter that vegetation continues without interruption, one crop succeeding another. Refreshing showers from time to time maintain perpetual verdure; not of grass, for none grows in the island, but of trees, shrubs, &c. On the leaves of these the sheep, hogs, and goats, thrive and fatten very much. To the salubrity of the air every individual can bear ample testimony, from the uninterrupted state of good health which has been enjoyed. When our settlers landed, there was not a single acre clear of wood in the island; and the trees were so bound together by that kind of creeping shrub called supple-jack, interwoven in all directions, as to render it very difficult to penetrate far among them. The commandant, by indefatigable activity, soon caused a space to be cleared sufficient for the requisite accommodations, and for the production of esculent vegetables of all kinds in abundance. The people were soon settled in commodious houses; and, according to the declarations of Mr. King himself, in his letters to governor Philip, this colony would be in a situation to support itself entirely without assistance in less than four years. Fish are caught in great plenty, and very fine turtle. The woods are inhabited by innumerable tribes of birds, many of them very gay in plumage. The most useful are pigeons, which are very numerous; and a bird not unlike the Guinea fowl, except in color (being chiefly white); both of which were at first so tame as to suffer themselves to be taken by the hand. Of plants that afford vegetables for the table, the chief are the cabbage-palm, the wild plantain, the fern tree, a kind of wild spinach, and a tree

which produces a diminutive fruit, bearing some resemblance to a currant. But the productions which give the greatest importance to Norfolk Island are the pines and the flax plant; the former rising to a size and perfection unknown in other places, and promising the most valuable supply of masts and spars for our navy in the East Indies; the latter not less estimable for making sail-cloth, cordage, and even the finest manufactures, growing in great plenty, and with such luxuriance as to attain the height of eight feet. The pines measure frequently 160 or 180 feet in height, and are sometimes nine or ten feet in diameter at the bottom of the trunk. They rise to about eighty feet without a branch: the wood is said to be of the best quality, almost as light as that of the best Norway masts; and the turpentine obtained from it is remarkable for purity and whiteness. The fern tree is found also of a great height, measuring from seventy to eighty feet, and affords excellent food for sheep and other small cattle. A plant producing pepper, and supposed to be the true oriental pepper, has been discovered in the island, growing in great plenty; and specimens have been sent to England, to ascertain this important point.

The settlers here are chiefly composed of soldiers, to each of whom an allotment of thirty acres of land was originally granted, and to a non-commissioned officer fifty; and of the better behaved convicts whose term of servitude is expired, and who receive twenty-five acres. Part of the crew of the *Sirius*, shipwrecked on the island, preferring to become settlers on it, also received each an allotment of land. Several marines who went out upon the first establishment had the same indulgence. Many of the smaller plantations are fenced round with sugar-canes. The policy of the government at one time was chiefly directed to promote the cultivation of this plant; and a cow, equivalent in this part of the world to £30, was promised to the first settler who should produce 500 lbs. of sugar from the native cane. This island, moreover, produces an article which is much wanted at Port Jackson, i. e. limestone. From Port Jackson the vessels not unfrequently return thither with this as their ballast. But a great obstacle to the colonisation of this island is the difficulty of approaching it, owing to the heavy mountainous sea which constantly beats on its shores. It has not unfrequently happened that ships from Port Jackson have been beating off and on, unable to advance, and unwilling to return, upwards of a month. The want of any harbour or roadstead is much against it; and in consequence of this disadvantage, and the inefficacy of all attempts to remedy it, its inhabitants expect to be called on to abandon the island. This resolution was in fact partly carried into effect in 1805, the convicts and the greater part of the military being removed to Port Dalrymple, or the river Derwent. The population never exceeded 1000.

NORHAM, a town of Durham, insulated in Northumberland, on the Tweed, near the mouth of the Till. The castle was anciently erected on a steep rock, moated round for security against the incursions of the Scots. It is of great antiquity, having been built in 830 by Egfrid,

bishop of Lindisfarne, and called Ubbanford. In 1121 it was rebuilt by Hugh Pewsey, bishop of Durham. In 1213 it was besieged by Alexander II. king of Scots. In 1290 Edward I. held the convention in it, to settle the dispute between Bruce and Baliol. In 1322 it was taken by the Scots, but retaken by Edward in ten days. In 1327 it was again taken by the Scots, by storm, and great part of the town and castle destroyed. It was repaired by bishop Fox, but attacked by the Scots before the battle of Flodden, and partly destroyed. The castle has been a formidable structure; a great part of it is in ruins; the site, with its demesnes, consisted of 1030 acres. It is six miles south-west of Berwick, and 330 north of London.

NORIA, an hydraulic machine much used in Spain. It consists of a vertical wheel of twenty feet diameter, on the circumference of which are fixed a number of little boxes or square buckets, for raising the water out of the well, communicating with the canal below, and emptying it into a reservoir above, placed by the side of the wheel. The buckets have a lateral orifice to receive and to discharge the water. The axis of this wheel is embraced by four small beams, crossing each other at right angles, tapering at the extremities, and forming eight little arms. This wheel is near the centre of the horse walk, contiguous to the vertical axis, into the top of which the horse-beam is fixed; but near the bottom it is embraced by four little beams forming eight arms similar to those above described, on the axis of the water-wheel. As the mule which they use goes round, these horizontal arms, supplying the place of cogs, take hold, each in succession, of those arms which are fixed on the axis of the water-wheel, and keep it in rotation. From the reservoir the water is conveyed by channels to every part of the garden; these have divisions and subdivisions, or beds, some large, others very small, separated from each other by little channels, into which a boy with his shovel or hoe directs the water, first into the most distant trenches, and successively to all the rest, till all the beds and trenches have been either covered or filled with water.

NORICI, an ancient nation of Illyricum, who inhabited Noricum, and were governed by kings who made many incursions upon the Romans; but at last in the reign of Augustus, joining the Pannonii, were conquered by Tiberius.—Dio Paterculus.

NORICUM, a Roman province, described by Ptolemy and Tacitus, situated between the Danube on the north, and thus separated from ancient Germany; the Alpes Noricæ on the south; the river Enus, on the west, separates it from Vindelicia; and Mons Cæsius, on the east, divides it from Pannonia. It was anciently a kingdom under its own kings.—Cæsar, Velleius, Suetonius. Tacitus reckons it among those provinces which were governed by procurators; officers sent by the emperors to receive and dispose of the public revenue. It was divided into two provinces about the time of Dioclesian and Constantine. How far each of these extended in breadth does not appear; all the account we have being from Sextus Rufus,

and the *Notitia Imperii Occidentalis*. This country was anciently famous for its iron and steel (Horace), as that part of it now called *Stiria* still is.

NORIS (Henry), cardinal, a celebrated Augustine monk, born at Verona in 1631. His father instructed him in grammar, and procured an able professor of Verona, called *Massoleim*, to be his preceptor. At fifteen he was admitted in the Jesuit's college at Rimini, where he studied philosophy; after which he applied himself to the writings of St. Augustine: and, taking the habit in the convent of Rimini, he soon distinguished himself by his erudition; insomuch that, as soon as he was out of his novitiate, the general of the order sent for him to Rome to give him an opportunity of improving himself. He spent whole days and nights in the library of the Angeliques of St. Augustine; and regularly studied fourteen hours a-day till he became a cardinal. Thus he became qualified to instruct others; and on this errand he was sent first to Pezaro, and thence to Perousa, where he took his degree of D. D.; after which, proceeding to Padua, he applied himself to finish his History of Pelagianism. He had begun it at Rome in 1657, and the book was printed at Florence in 1673. In 1674 the great duke of Tuscany invited him to that city, made him his chaplain, and professor of ecclesiastical history in the university of Pisa. In his history he defended the condemnation pronounced, in the eighth general council, against Origen and Mopsuesta, the first authors of the Pelagian errors: he also added an Account of the Schism of Aquileia, and a Vindication of the books written by St. Augustine against the Pelagians and Semi-Pelagians. The work had procured him a great reputation, but met with several antagonists, to whom he published answers: the dispute grew warm, and was

carried before the inquisition. There the history was examined with the utmost rigor, and the author dismissed without censure. It was reprinted twice afterwards, and the author honored by pope Clement X. with the title of qualificator of the holy office. Notwithstanding this, the Pelagian history was accused afresh before the inquisition in 1776; but it came out again with the same success. Mr. Noris was now suffered to remain in peace for sixteen years, and taught ecclesiastical history at Pisa, till he was called to Rome by Innocent XII., who made him under-librarian of the Vatican in 1792. This post being a step to a cardinal's hat, his accusers published several new pieces against him. The pope appointed some learned divines, who had taken neither side, to re-examine Noris's books, and make their report; which was so advantageous to the author that the pope made him counsellor of the inquisition. Yet one of his adversaries attacked him afresh under the title of a *Scrupulous Doctor of the Sorbonne*. Noris, in a work which appeared in 1695, under the title of *An Historical Dissertation concerning one of the Trinity that suffered in the Flesh*, answered all accusations so much to the satisfaction of the pope that he honored him with the purple in 1695. After this he was employed in the most important affairs, and, on the death of cardinal Cassanati, was made chief library-keeper of the Vatican in 1700; and in 1702 nominated, among others, to reform the calendar; but he died in Rome in 1704 of a dropsy. He was one of the most learned men in the seventeenth century, and was a member of the academy; whence he assumed the name of *Eucrates Agoretico*. His works are numerous, and were published at Verona in 1729 and 1730, in 5 vols. folio.

NORMANDY.

NORMANDY, in Latin *Normania*, called by the French *La Normandie*, a late extensive and ancient duchy of France, which on account of its intimate connexion with English history, and the great influence it has had on the affairs of this country, cannot fail, it is presumed, to be of deep interest to the English reader. This celebrated district is also well deserving our attention as being the most picturesque, most fertile, and most commercial in France: it is from Normandy that the government derives the greatest portion of its revenue, and of late years its contributions have been incredibly large. Of great men, the principal glory of a nation, it has been unusually prolific; few other countries can boast of having produced so illustrious a phalanx, no less renowned in arts than in arms. Its towns and ports are numerous and important, and its antiquities, to the natives of this country in particular, with which Normandy was formerly so closely connected, highly interesting. It gave kings to England above seven centuries and a half ago, and the descendants of the conqueror may even now be said to occupy the British throne; an

evident proof that the means adopted to retain possession of the dominions he had acquired by the sword, and to transmit them securely to his posterity, were characterised by no small degree of political wisdom. After Normandy had once again become united to France, in 1204, it gave the title of duke to the eldest son of the French monarchs, but in 1349 prince Charles, son of John, duke of Normandy, and grandson of Philip de Valois, having become possessed of Dauphiny, acquired the title of Dauphin, which the heir to the crown has ever since continued to bear.

Its ancient designations and boundaries may be thus exhibited:—When Caesar had finally reduced Gaul to the condition of a Roman province, in the year 55 B. C., he divided it into three parts, naming them after the three principal nations by whom they were inhabited, viz. *Gallia Belgica*, *Aquitania*, and *Gallia Propria* or *Celtica*. A new division was made by Augustus, B. C. 27, which extended the northern boundary of *Aquitania* to the river *Loire*. Ptolemy, who flourished a century and a half later than Augustus

tus, divides it into four parts, viz. Gallia Belgica, Narbonensis, Aquitania, and Gallia Lugdunensis, the last being so named from Lugdunum, its capital; this division was also sometimes called Celtica, from Celtæ, the general appellation of its inhabitants. The Gauls were denominated Galli, Celtiberi, and Celsoscythæ: by the Greeks, who named their country Galatia, they were called Galatæ. They styled themselves Celtæ, which term appears to have been applied more particularly to the natives of Gallia Lugdunensis. This division was bounded on the east by the Rhone, west by the ocean, north by Gallia Belgica, and south by Aquitania; it was subdivided into prima, secunda, tertia, quarta. In Lugdunensis Secunda was comprised the principal part of the tract of country subsequently called Normandy, which, after the conquest of Gaul by the Franks, formed part of the ancient kingdom of Neustria, under the Merovingian and Carolingian kings. When the dominions of Louis le Debonnaire were divided among his children, it fell to the lot of Charles le Chauve, king of western France, and in the reign of Charles le Simple, his grandson, was conquered by the Normans.

From the commencement of the ninth century this part of France, in common with most of its other provinces (especially such as bordered on the sea, or were intersected by large rivers), was continually devastated by the ancient Scandinavians, who inhabited those countries in which are now comprised the kingdoms of Denmark, Sweden, and Norway, and the adjacent country of Lapland. They were known by the significant appellation of Northmen or Normans, the word Normann or Nordländer signifying in German a man of the north: by the early Anglo-Saxon chroniclers, they are generally termed Danes, but the flattering title of heathen or robber is sometimes freely applied. These devastations, which were extended to almost the whole of Europe, continued to afflict France until the commencement of the tenth century, at which period a band of these formidable conquerors had not only overrun and taken possession of the fairest and most valuable part of Neustria, but even menaced with subjugation the whole kingdom. In this extremity Charles IV., surnamed the Simple, tenth king of France of the Carolingian race, by the advice of his most prudent counsellors, determined on sacrificing part of his dominions in order to preserve the rest. He commissioned Francon, archbishop of Rouën, to negotiate with duke Hrolfr or Rollo, their leader; and a treaty was shortly afterwards concluded, anno 912, in which it was stipulated that the largest portion of Neustria should be ceded to him. This, it is true, was to be held as a fief dependent on the crown of France, but it was dependent only by an empty and useless form of homage, and the country, thus acquired by the arms of the victorious Normans, received from its conquerors the name of Normandy, which it preserved until the French Revolution (and may be said to have retained to this day) when France was divided into departments. But it is under its late appellation that it must be spoken of; and, by treating of it as one grand

whole, its component parts will be described without entering too much into detail.

Its late boundaries, thus understood, were, on the east, Picardy and the Isle of France; west, the sea and Brittany; on the north, the channel; and south, Perche, Maine, and part of Brittany. It was divided into Upper and Lower; Rouën being the capital of the former, which touched on Picardy; Caën of the latter, which was bounded by Brittany. These divisions, of very unequal dimensions, were separated by the Seine; Upper Normandy, which was seated on its right bank, not being more than one-third of the extent of Lower Normandy, so that the latter comprehended about three-fourths of the duchy. It extended from east to west, from Gisors to Cherbourg, about sixty leagues; from north to south, from Verneuil-sur l'Aure to the cities of Eu and Tréport, about thirty-two leagues, and was about 240 in circumference, one-half being sea-coast; the district called Le Cotentin, in particular, projecting into the sea in the form of a peninsula. The cliffs are somewhat higher than those of the opposite English coast; on the shores of Upper Normandy, they vary from 150 to upwards of 700 feet, rising to the greatest height in the neighbourhood of Fécamp. They present an almost unbroken barrier of pure white, being only intersected when necessary to afford an outlet to some river. This province contained seven duchies, Alençon, Aumale, Danville, Elbeuf, Etoutteville, Harcourt, and Longueville.

The duchy of Normandy is now divided into five departments, the late province of Perche being included. 1. Seine-inférieure, which derives its name from the river Seine, comprises the greatest part of Upper Normandy, a small part of it being included in the department of the Eure. Its superficies is about 699,895 hectares, or about 1,369,790 square acres, 174,848 acres of which are forest lands. Its length thirty-five leagues; breadth twenty. It is divided into five circles or communal districts, Rouën chief town, Le Havre, Neufchatel-en-Brai, Yvetot, Dieppe; fifty cantons, and 917 communes. Population about 656,000. Returns ten members to the Chamber of Deputies. Territorial revenue 44,523,000 francs. Is in the fifteenth military division. 2. L'Eure, which derives its name from the river Eure, in Latin Ebur; it is south of the Seine-inférieure, and comprises 1,221,206 square acres, 192,531 acres being forest lands. Its length thirty leagues; breadth twenty-seven. It is divided into five circles: Evreux, chief town, Bernay, Les Andelys, Louviers, Pont-Audumer; thirty-five cantons, and 813 communes. Population about 416,000. Returns seven members to the Chamber of Deputies. Territorial revenue 29,741,000 francs. 3. La Manche, or the channel to the west, contains 675,713 hectares, or 1,323,932 square acres, of which 48,400 acres are in forest land. Its length thirty-five leagues; breadth fourteen. It is divided into six circles: St. Lo, Avranches, Cherbourg, Coutances, Mortain, Valognes; forty-eight cantons, and 69 communes. Population about 594,000. Returns seven members to the Chamber of Deputies. Territorial revenue 31,813,000 francs. Fourteenth military division. 4. Calvados, east of La Manche;

this department derives its name from a ridge of rocks to the north of Bayeux, four or five leagues in extent; so called in consequence of the Spanish vessel, the *Calvados*, having been stranded on them. Its superficies is about 570,427 hectares, or 1,117, 643 square acres, of which 72,470 acres are forest land. Its length thirty-two leagues; breadth thirty-two. It is divided into six circles, *Caën* chief town, *Bayeux*, *Falaise*, *Lisieux*, *Pont-l'Évêque*, *Vire*; thirty-seven cantons, and 897 communes. Population about 493,000. Returns seven members to the chamber of deputies. Territorial revenue 35,503,000 francs. 5. *L'Orne*, south of *Calvados*, so called after the river *Orne*, in Latin *Olina*; it contains 1,264,255 square acres, of which 134,923 are forest land. Its length thirty-two leagues, breadth fifteen. It is divided into four circles, *Alençon*, chief town, *Argentan*, *Domfront*, *Mortagne*; thirty-five cantons, and 627 communes. Population about 423,000. Returns seven members to the chamber of deputies. Territorial revenue 22,096,000 francs.

It will be perceived, from the above statement, that ancient Normandy (including in the calculation the late province of *Perche*) comprised about 6,296,826 square acres, or 3,000,000 of hectares, the forests covering about 623,172 acres; and that the departments formed therefrom contain a population of about 2,500,000 souls. The perch, by which the measure of the acre is determined in France, varies in different districts; but the arpent of woodland is invariably the same, the perch being twenty-two feet in length. This arpent comprises 48,400 French square feet, equal to 6108 English square yards, or to one acre, one rood, one perch. A hectare contains two acres, one rood, 35·4 perches.

The general aspect of Normandy is very similar to some of the finest parts of England, and, although much more destitute of enclosures than the latter country, is much less open than most other districts in France, particularly in the *Pays-de-Caux*. It is for the most part undulated, but the hills, though sometimes lofty, are seldom of sufficient altitude to impede the operations of agriculture. Lower Normandy, however, contains some large tracts of level land, especially the department of the *Calvados*; *Caën*, its chief town, being seated in the midst of a vast plain. The soil is in general rich, though often calcareous. The *Pays-de-Caux* is considered the most enchanting district in this ancient province: but, notwithstanding the brilliancy of its verdure, it occasionally suffers greatly from drought, so much so that, in the western part, it is necessary at times to irrigate the land by artificial means. The gardens of the small farm-houses and cottages are sometimes surrounded with hedges of quickset or elm, but more commonly with banks planted with rows of trees, seldom or never exceeding two in depth; and occasionally whole villages are thus encompassed: these enclosures are principally confined to this district. Few countries possess more natural beauties than Normandy; but artificial beauties, such as parks, plantations, and seats, are much less numerous than in England.

The climate of this province may be accounted

temperate, though inclined both to coldness and humidity. Although not so subject to rain as England, more falls here than in any other part of France, *Picardy* and *Artois* excepted. The winters are often intensely cold.

The roads are wide and straight, and generally pretty level—for, where the land is low, they are usually raised by artificial means; but so badly repaired, that in winter they are in some places scarcely passable; at least would not be deemed so by the English traveller. They are in fact, in common with all those that were made by order of *Louis XIV.*, or on the same model, about twice as wide as requisite, and their straightness renders travelling exceedingly tedious: the roads also throughout Normandy are almost invariably bordered with apple trees, which add greatly to the monotony of the scene. A new road has been begun from *Rouën* to *Havre-de-Grace*, which is constructed on a much better principle than the old ones, and, as its width is much less, it is with greater ease kept in repair. It skirts the *Seine* a great part of the way, consequently, is by no means so straight, and traverses one of the most superb tracts of country in Europe, passing by *Ducler*, *Caudebec*, *Lillebonne*, and *Bolbec*, at which last town it falls into the old road, not having as yet been carried further. Although the roads throughout France are seldom good, unless where the soil is naturally hard, or materials for repairing them are easily to be obtained, the nation has little right to complain, as the expense for keeping the roads throughout the whole kingdom in repair (the extent of which has been estimated at 30,000 miles) is extremely moderate. They are under the management of the government, and tolls or turnpikes are unknown.

On its extensive coast there are several *bays* and *ports*; the most important in Upper Normandy are *Havre-de-Grace*, *Dieppe*, *Fécamp*, *Tréport*, *Saint-Valéry*, &c.; in Lower Normandy, those of *Cherbourg*, *Granville*, *Honfleur*, *La Hogue*, *Portbail*, &c.; and *Rouën*, *Caudebec*, and *Quillebœuf* on the *Seine*. *Napoleon* made great improvements at *Havre-de-Grace*, and still greater at *Cherbourg*; and these would have been extended to other ports if his brilliant reign had not been so abruptly terminated; at *Caën*, in particular, important alterations were projected. The entrance to some of the harbours in the channel, in consequence of the prevalence of north-westerly winds, is very liable to be choked up; but since the peace great care has been taken to keep them clear, by removing the shingle that is so constantly driven in. At *Havre*, now become the most important port in France, in consequence of the extensive commerce carried on with the United States of America, these efforts have been tolerably successful, but *Dieppe* is still entered with difficulty.

The duchy contained six episcopal cities under the see of *Rouën*: *Avranches*, *Bayeux*, *Coutances*, *Evreux*, *Lisieux*, and *Sées*; but they are now reduced to four, *Avranches* and *Lisieux* being merged in the more important bishoprics of *Bayeux* and *Coutances*, so that the five departments have each a see. In these seven dioceses there were eighty abbeys and 4280 parishes.

The see of Rouën comprehended the Pays-de-Caux, de Brai, du Vexin, and du Roumois. Upper Normandy contained four bailiwicks; those of Rouën, Caux, Evreux, and Gisors: Lower Normandy contained three, Alençon, Caën, and Coutentin; the two divisions comprised about fifty cities and 150 large towns. Among the former were those of Alençon, Argentan, Carentan, Caudebec, Cherbourg, Dieppe, Eu, Fécamp, Falaise, Gisors, Harfleur, Havre-de-Grace, Honfleur, Lillebonne, Lire, Pont-de-l'Arche, Quillebœuf, Vernon, Vire, &c.; among the latter may be enumerated, l'Aigle, Andelys, Bernay, Domfront, Gournay, Louviers, Montivilliers, Mortain, Neufchatel-en-Brai, Perriers, Pont-Audemer, Pont-l'Evêque, Valognes, Verneuil, Yvetot, &c. &c.

Normandy gives rise to, and is traversed and enriched by several *rivers*; the most considerable are, l'Ante, l'Aure, la Bresle, la Carentone, la Dive, la Drome, l'Epte, l'Eure, le Lesson, l'Orne, l'Ouve, la Rille, la Seine, la Touque, la Vire. Of these, the most important is the Seine, known to the Romans as the Sequana; it takes its rise in the forest of Saint-Seine, department of the Côte d'or, not far from Chanceaux, and about six leagues to the north of Dijon, formerly the capital of the duchy of Burgundy; and, after having traversed part of Champagne, traverses Paris from east to west. It runs seventy leagues, and receives the Aube, the Yonne, and the Marne, before it enters the capital. Its inundations are not frequent; for since the year 822 only fifty-three are recorded. Its greatest elevation was in 1711, when it rose to twenty-four feet nine inches. Its name has been conferred on three departments, 1. That of the Seine-inférieure in Upper Normandy; 2. Seine et Marne; 3. Seine et Oise. It is navigable as high up as Mery in Champagne; at Rouën it attains great breadth, and, after flowing by that ancient city, this noble river rolls on towards Quillebœuf and Tancarville, its right bank being crowned with lofty and well covered hills, which extend, with little intermission, throughout Upper Normandy. Having passed those promontories it widens considerably, and between Honfleur and Le Havre (which latter port stands at the extreme point on the right bank of the river), where it enters the channel, is no less than nine miles across. It there forms the beautiful bay of Honfleur; the hills both of Upper and Lower Normandy, which encompass it, being clothed with wood to the water's edge; and the trees, notwithstanding their proximity to the sea, far from being stunted and blighted, as vegetation so situated is usually found in England, especially on the eastern, and great part even of the southern coast, appear to thrive with unusual luxuriance. The tide runs up about six leagues higher than Rouën: from Paris to the coast this river flows over a space of eighty-five leagues; from its source to the channel it runs no less than 155 leagues.

The navigation of the Seine is attended with little difficulty until it approaches the ocean, when it becomes exceedingly dangerous, not only on account of the numerous sand-banks dispersed about its mouth, but by reason also of their position perpetually shifting; so much so

that changes sometimes take place every tide: pilots are therefore constantly employed in sounding. The sand occasionally forms bars; a very dangerous one exists at Quillebœuf. In consequence of the stoppage which it occasions to the flow of the tide, the current is very rapid, forming eddies and whirlpools, in which vessels, unless conducted by an experienced and skillful pilot, are speedily ingulphed. The boats frequenting the river are so constructed that they can take the ground without danger; they are frequently left dry on the sand-banks at low water, but on the return of the tide are soon set afloat.

This country contains numerous and extensive *forests*, abounding in game, and yielding a great quantity of fine timber; this may be less valuable here than in some other provinces, from which wood for fuel is sent to the capital; but, as the Seine runs from Paris to Normandy, it is not of course possible to float the timber, and the expense of conveying it by land-carriage would be too great. The most considerable are the forests del'Aigle, d'Ailles, d'Argentan, d'Arquez, de Beaumont, de Brai, de Breteuil, de Briquebec, de Brotoime, de Cerisy, de Conches, d'Eu, d'Evreux, de Hiesmes, de la Lande-Pourrie, de Lions, de Molineaux, de Neubourg, du Pont-del'Arche, consisting principally of oak, beech, and birch, now mostly young trees, covering an extensive tract of country; the forests de Romare, de Singlais, de Touque, &c.

Mines and mineral waters. Normandy has several iron mines and some of copper. In the parish of La-Chapelle-en-juge there is a mine of red-lead, in which a great many marcasites are found, and occasionally a little silver. At Basseroy there are coal mines. In Mont-Cerisy, near the abbey of Belle-Etoile, in the diocese of Bayeux, there is one of silver, but of no great value. Diamonds are found at Alençon, which are now held in little esteem, and granite in the territory dependent on it. Near that city there is a large quarry of cannel coal; this hard inflammable substance, called also black earth, is of great use to carpenters and modellers; will take a very high polish, and is applied to various uses. Different sorts of earth admirably adapted for the manufacture of porcelain: several quarries of slate at Barbery, Tury, &c. The most celebrated mineral waters are those of St. Paul, near Rouën, de St. Sain, de Baignolles, de Bourberouge, des Forges, de Menitone, de Mont-Bosq, de Pont-Normand, &c. &c.

Natural curiosities. The most remarkable of these are, 1. A fountain in the county of Eu, which throws up, in three violent gushes, water sufficient to feed a moderate sized river, and, what is the more extraordinary, this fountain issues out of a rock so near the sea that it is covered twice a day by the tide, notwithstanding which the water is perfectly fresh. 2. At Tréport, in a house near the harbour, is a well in which the water sinks as the sea rises, and rises as it retires. 3. In a forest in the county of Eu, on the declivity of a mountain, opposite to which stand the villages of Bouvaincourt and Beauchamps; whenever a storm takes place during the summer, attended by rain, there arises in

three or four different places, at a short distance from each other, a considerable quantity of thick smoke, similar to that which issues from a lime-kiln. Near the town of Eu there is a mountain which abounds in all sorts of petrifications; fossil-shells, teeth of fishes, sea-nettles, mushrooms, &c.

Normandy possesses many attractions for the botanist. Among its various productions may be enumerated the caucalis grandiflora, or hedge parsley, growing luxuriantly on scarcely more than the bare chalk. Its stem is about a foot high; its leaves of a pale green and a little hairy; the flowers white. This plant is found in the neighbourhood of Dieppe. The asperula cynanchica, squinancy wort, or small woodroof, also met with in England, growing on warm banks; these, in common with other plants peculiar to a calcareous soil, are found in abundance. The astragalus glycyphyllos, or liquorice vetch. The rare erodium moschatum, or musky stork's-bill; its leaves, which are larger than those of some plants of the same species, are whitish on both sides; it is frequently cultivated in gardens for the sake of its strong musky scent. This plant is found also in the Levant, and grows wild in the mountainous pastures of Yorkshire and Westmorland. The eryngium campastre, a species of the sea-holly or eryngo, a vegetable very common in the north of France, though rarely found in England; its flowers are of a greenish-white, with narrow involucre leaves and undivided scales. The melissa nepeta, of the balm, or rather thyme tribe: flourishing on chalky banks and in the borders of fields; very common throughout the south of Europe, in Greece, and in the islands of the Archipelago; it flowers in August. The papaver hybridum, or mongrel poppy, found in the southern and temperate parts of Europe, growing in fields on a light soil; it is extremely rare in England. The environs of Rouën, and particularly the chalky hills which tower above the city, produce the curious satyrium hircinum, originally a native of the Cape of Good Hope, in great profusion. Its flowers are of a whitish-red, and of the form of a long ear; the smell is disagreeable, greatly resembling that of the goat. Beneath the hill of St. Adrian, at some few miles distance on the same ridge, is to be found on the bare chalk the viola Rothomagensis, or violet of Rouën, tinged, as it were, its pure bed, with a beautiful glow of blue. This rare specimen of the violet tribe grows also on the hillocks by the side of the high road leading from Rouën to Paris, and is again found on a chalky hill near the small village of Port St. Oucn, at some little distance from the first named city; also in the environs of Mans, capital of the department of the Sarthe, and on the downs about Dunkirk, but it is not known to exist elsewhere. It is cultivated in the garden of plants at Paris. The andromeda polifolia, wild rosemary, or poley mountain, an elegant little shrub, is found near Jumieges; it rises from about half a foot to a foot in height; the flowers are fleshy and nodding; it is also found in America, and on turf bogs in the northern countries of Europe. It flowers in June. At Graville, not far from Havre-de-Grace, the stachys Germanica, or downy woundwort,

rarely found in England, grows luxuriantly by the road-side; it is also met with in Germany, Siberia, and Greece. The flowers are numerous, silky and silvery on the outside; purple and white in front.

The Normans have for many centuries paid the greatest attention to *agriculture*. About the period of the conquest of this country, which took place 150 years after their first settlement in the duchy, they had attained to so great a perfection in this important art as to have left little room for subsequent improvements. This assertion is not made on slight grounds, for we have indubitable proofs, in the remains of ancient sculpture and tapestry, that their implements were at that time nearly similar to those now in use, although less perfectly constructed. The plough, of which they had two or three sorts, differed somewhat from that of the present day, but their scythes, sickles, and flails, were nearly the same; the cart and the harrow of the ancient and the modern Normans differ but little. Their agricultural operations were also carried on much in the same manner as they are at present; there was little difference in the mowing and reaping, in their threshing and winnowing. Marl was their favorite manure. They had abundance of mills, some turned by water and some by horses, which latter were used in districts destitute of water; with these their armies, when employed abroad, were abundantly supplied. The same streams that turned their mills in ages past serve at the present day to turn a much greater number, in consequence of the establishment of large manufactories in those towns in which, probably, nothing but corn-mills and tan-pits formerly existed. At Bolbec, a flourishing town five leagues east of Le Havre, this is particularly the case; the banks of the stream which flows through it being now covered with manufactories. It is not unworthy of remark that bec is a very usual termination to the names of places in Normandy, seated on running streams; for besides Bolbec, just mentioned, there is Caudebec, also in Upper Normandy; Orbec on the Touque, near Bernay, in Lower Normandy; and Briquebec in the Cotentin: there is also the town of Le Bec, formerly celebrated for its large and splendid abbey, in the district of Bernay, and in the immediate vicinity of the confluence of the rivers Bec and Rille. Bec, in the Celtic language, signified a stream or brook, and had the same meaning in the Gothic and most northern tongues. The same termination anciently prevailed in this country, as in the river Wensbeck in Northumberland, Purbeck, a rough and heathy tract in the south-east of Dorsetshire, to the south of Poole Bay, &c. Many of the Norman barons were well skilled in agriculture, and appear to have considered it no degradation to devote great part of their time to so useful a pursuit. In this they were rivalled if not excelled by the clergy and the monks, who, retaining great part of their lands in their own hands, especially such as were contiguous to their monasteries, cultivated them with the greatest care, introducing many useful improvements. The agriculture of Normandy would not perhaps stand a comparison with that of England as at present conducted; important advances

have of late been made in this country, and it has become customary for men of large landed property to devote themselves to this pursuit, as the Norman gentry continue to do. The cultivation of his own land is an employment especially permitted to a decayed noble, although he is not allowed to till the lands of another: but, generally speaking, a distaste for rural pursuits prevails throughout France. Half a century ago, indeed, agriculture came more into vogue in that country, in consequence of its having occupied the attention of the French Academy. Du Hamel du Monceau, one of its most able members, philosophically investigated its principles; his example was soon imitated, and a taste for this science was more generally diffused, the beneficial effects of which are still felt. The Norman nobility however, like those of all the other provinces, prefer the capital to their châteaux, when their means permit them to indulge their taste; and, when circumstances prevent them from fixing their residence in Paris, they congregate in large towns: Dijon the ancient capital of the late duchy of Burgundy, and St. Omer in the late county of Artois, were, before the revolution, almost exclusively inhabited by them. On the whole, if the agriculture of Normandy, when compared with that of England, should be found somewhat backward, it is chiefly owing to the want of large capitalists being engaged in it. Normandy possesses not this great advantage, or possesses it only on a very limited scale. It should be recollected however, notwithstanding modern improvements, that we are greatly indebted to the Normans for the changes they introduced centuries ago:—shortly after the conquest vast numbers of husbandmen flocked hither, bringing with them their implements, their experience, and their industry, by whom a most beneficial revolution was speedily effected.

The land in Normandy produces in abundance almost all sorts of grain; the crops of wheat are particularly fine. Round Caen the country, which is extremely level, is entirely devoted to the cultivation of corn; vast plains, on which nothing else is raised, extending in all directions as far as the eye can discern, and unbroken by a single enclosure. A large proportion of this is the polygonum fagopyrum or buck-wheat, which does not bear the least resemblance to common wheat. Its stem is from a foot and a half to a yard high, smooth, upright, and branchy; clusters of handsome flowers, approaching to white, terminate the branches; they are succeeded by large angular seeds. It is sometimes cultivated for fodder, in which case it is cut while the stalks are young and green; but more frequently for its grain, with which swine and poultry are fed. The grain is black, but yields a white flour; it is used as food by the lower classes, who make it into a cake which they find very palatable, and consider both wholesome and nourishing. This plant possesses one great advantage, that it will thrive even better on a poor than on a rich soil; for on the latter it will often run too much to straw. The French call it sarrazin, which term has led many to imagine that it was introduced into France by the Arabs; but for this supposition there appears to be but little founda-

tion, as it is neither to be found in Arabia itself nor in those countries in which the Arabs principally settled after having subdued them, such as Spain, Sicily, &c. Others have with more probability supposed that it was first introduced into Europe about the beginning of the sixteenth century, from Greece or the north of Asia, where the Siberian buck-wheat, another species of this plant, is well known. It was brought from Tartary to St. Petersburg about the beginning of the last century, and thence gradually dispersed throughout Europe. The Bretons call this species had-razin, and, as they are the immediate neighbours of the Low Normans, it is very possible that the latter may have borrowed the term from them, which in process of time has been changed into sarrazin. It was cultivated in England towards the close of the sixteenth century. In some parts of Normandy several different sorts of grain and vegetables are frequently raised on three or four acres. This is termed by the French la petite culture; and the land, in consequence of being thus minutely divided, presents a very singular appearance. It is well ascertained that if, within a given space, the seed of only one species of grass be sown, and, within an area of the same dimensions, an equal quantity of several different sorts, the roots proceeding from the mixed will be much more numerous than those springing from the unmixed; and it is possible that the knowledge of this fact may have suggested to the French agriculturist the possibility of increasing the produce of his land by raising, within a limited space, a variety of herbs and plants: but the cases are not parallel, for while the grass-seed, in consequence of being so intimately mixed, may derive all possible advantage from the soil, each distinct species fastening and flourishing on the sort of earth best adapted for its nourishment; the vegetables or grain being kept distinct, though planted side by side in narrow strips or patches, cannot derive that advantage.

A vast quantity of melons are raised in the environs of Lisieux, where they flourish in the open air, without requiring any artificial protection. The fruits of Normandy, indeed, are generally of excellent quality. Both the apple and pear are remarkable for their beauty and luxuriance, and present a strong contrast to their dwarfish and deformed brethren of England: for the former this province has long been famous; the roads, as already mentioned, are almost invariably lined with apple-trees, and they are constantly to be seen, planted singly or in groups, in land destined to the cultivation of grain, orchards being almost unknown. The pear is in less repute. But the Norman cyder, though much esteemed in France, is, notwithstanding the excellence of the apple, very inferior to that which is made in England. The greatest quantity is made in the western part of the province, where the poorer classes seldom drink any thing else; but even here it is crude, vapid, and unpalatable. It has been presumed on good grounds that cyder was unknown to the inhabitants of Neustria before the arrival of the Normans, who it is supposed had acquired the art of making it from the Biscayans, as this latter people had done from the

nations inhabiting the northern coast of Africa, with whom they were at one period in habits of intercourse. The vine is now rarely seen, unless towards the southern extremity of the province, but it is certain that it was cultivated in remote ages, even in the northern districts. In the vicinity of Caën and Lisieux, in particular, we have proof that vineyards formerly existed, and one was to be seen at Argence, within four miles of the former town, about the close of the last century. The monastery of Jumieges had also a vineyard, mentioned by many monkish historians; pretty good authority, it must be admitted, in all matters relating to the kitchen and cellar. It is moreover a well authenticated fact that, in the year 1500, there was one remaining in the hamlet of Conihoult, in the immediate neighbourhood of the convent, the wine which was the produce of it being enumerated among the articles of its charitable donations, and as late as 1561 about twenty acres belonging to it were still used as a vineyard. At the present day the vineyards farthest north are those situated between Louviers and Gaillon; the vines are all of the species producing the small black cluster grape, which yield a very inferior wine.

The vine was first planted in Britain by the Romans; and we may be allowed perhaps to add, while speaking of the vine, that Doomsday-book frequently speaks of wine as made in England, previous to and about the period of the conquest: vineyards are therein mentioned no less than eight-and-thirty times. Not long after that event, several new plantations of vines were made at Westminster, Chenetone, in Middlesex; Ware, in Hertfordshire; and at Hanten, in Worcestershire. The bishop of Ely received three or four tuns annually as tythes, from the produce of the vineyards in his diocese and those of Holburne; and he appears to have made frequent reservations in his leases of a certain quantity of wine for rent. In the twelfth century, the wines of Gloucestershire were but little inferior in quality to those of France. The vineyards of that county are particularly mentioned by William of Malsbury as excelling those of all the rest of the kingdom in the quality of their grapes; he also states that it contained more of them than any other county. A vineyard existed at Croydon, in Surrey, at the commencement of the fourteenth century; and, less than two centuries ago, one was still remaining at Deepden, near Dorking, in Surrey.

The *linum usitatissimum* or flax, and the *cannabis sativa* or hemp-plant, are much cultivated in Normandy. Between Havre and Fécamp a great quantity of the former is raised; it appears to thrive in that neighbourhood, as the land is principally devoted to it. The ground in which it is planted should be rich, neither very dry nor very moist; perfectly level, and as fine as garden mould, the stones being carefully removed. The plants, in consequence of being a great deal trimmed, are unsightly, but when viewed from a distance, as this is less perceived, they are by no means unpleasing to the eye. They have a slender hollow stem, and are usually about two feet high; the bark consisting of fibres very similar to those of hemp. The hemp-plant, a

native of Asia, is annual here; it rises rapidly as a tall slender shrub, with five or six leaves a little serrated, sprouting from the same pedicle, which emit a powerful odor. Its value consists in its external filaments, and its seeds abounding in oil. The male and female flowers are well distinguished. A great deal of flax and hemp is raised by the peasantry, who manufacture it into coarse linen. Plants used for dyeing are also raised in this province. The *reseda luteola*, would or dyer's weld, which grows spontaneously in the south of Europe and in the Levant, is a great deal cultivated in the neighbourhood of Port St. Ouën; it ripens in June and July. This plant is not so much esteemed in dyeing yellow, since it was discovered that the quercitron bark possesses very superior qualities, yielding about ten times as much color as the best weld. The *isatis tinctoria*, or true woad, is biennial. The lower leaves are of a bright green color, of an oval shape, terminating in obtuse roundish points. The stalk, about four feet high, is divided into several branches, bearing arrow-shaped leaves which sit close to the stalk, each branch being terminated by small yellow flowers. The crop is gathered as soon as the leaves are fully grown, and while they are still quite green; for when they begin to change, their value is in a great measure gone; and the leaf is the only part of the plant of any value. In good land, and with great care, it will yield four gatherings; the first two, however, are by far the most important, being worth at least four times as much as the last two. Woad, besides yielding a substantial and durable blue in dyeing, has the property of fixing many other colors; it is frequently used in conjunction with indigo. During the last war this plant became an object of great attention, as it was hoped that it might prove an effectual substitute for indigo, of which France was then almost deprived; but since the peace it has again fallen into comparative neglect. It was first introduced into England in 1582.

The *rubia tinctorum*, or madder, a native of the south of Europe, is also cultivated in Normandy. The stalk, which is annual, has rough narrow leaves at the joints, set in the form of a star. The long and slender root is the only part made use of. It is of a red color both within and without, with the exception of a pale pith, which extends along the middle. The color is extracted by water and rectified spirit; and, in order to increase the beauty of the dye, it is sometimes used in conjunction with cochineal or Brasilwood. In the environs of Port St. Ouën, the *dipsacus fullonum*, or fullers' teasle, used in the manufacture of cloth, is cultivated. It is biennial, and attains the height of from four to six feet, the stem and leaves being rough and prickly.

Among the exotics which flourish here in profusion may be enumerated roses and jessamines of various kinds; myrtles, pomegranates, oleanders, egg-plants, orange and lemon trees, and the *canna India*, or Indian flowering reed, a native of Asia, Africa, and America. The stem of this plant is upright and three or four feet high; the flowers red: in Cayenne the leaves are used to form a covering for the houses. To

these we may add the clerodendrum fragrans, or fortunate tree; a native of India. The clethra alnifolia, or alder-leaved clethra, a native of Virginia and Carolina, with stems from eight to ten feet high; and the datura cernuocola, a species of the thorn-apple. The dianthus carthusianorum, a species of the pink and carnation genus, found also in Italy, Switzerland and Germany. Its flowers are red, with hairy petals; it flourishes on banks and about the borders of fields, in dry chalky soils, or on lime rubbish. The gladiolus cardinalis, so named from gladius, a sword, which its leaves are very like in form, and from the circumstance of its blossoms, which are scarlet, resembling in color a cardinal's robes. Scopoli, a profound naturalist, who flourished in the last century, and fell a victim to domestic chagrin and public persecution, carried his religious scruples to such a length that he censured the application as profane, and substituted the adjective rubra for cardinalis. The stem is from two to three feet high, and branched; its blossoms, of the richest scarlet, are distinguished by three white spots; its green has a glaucous cast. To make it flower in all its native beauty the bulbs should be taken up yearly. This priestly glaive, for so it may be fairly rendered, is a native of the Cape, and, like all its tribe, delights in a warm situation and uninterrupted sunshine. The lilium superbum, or superb Martagon lily, a native of North America. The bulb is of a pure white; and its stem is perfectly smooth and even, two or three feet high, and branched. Its flowers, of red or yellow, with dark spots, attain a great size and are very splendid, each branch is terminated by one; their smell is unpleasant. When growing wild they seldom bear above three or four flowers, but, when carefully cultivated, sometimes produce twelve or fifteen. The lilium tigrinum, which is still more magnificent, and perhaps the most brilliant species of this tribe. It is a native of China, and flowers in August. The rosa moschata, musk or cluster rose; a beautiful species of the rose tribe, which here flourishes in the open air. It is a native of Barbary, at least grows wild in the hedges of that country. At Tunis this elegant flower is cultivated with great care, and, by means of distillation, a very fragrant oil is obtained from its petals, of the same nature as that which is distinguished by the Arabic term attar, signifying odor. Its stems are long and lax; the leaves of a light glaucous green; the flowers white and very numerous, but rather small.

The *pasturage* of this country is very rich, and in the neighbourhood of rivers, or in low and moist ground, is as brilliant as that of England. About Croissanville, a village not far from Caën, the country is one vast tract of meadow land; and from this neighbourhood Paris is principally supplied with its beef. Lower Normandy contains besides a great deal of grass land, the left bank of the Seine being almost exclusively devoted to it.

The Norman *horse* has long been celebrated, not for its strength alone, but also for its beauty. Normandy contains the best breed in France with the exception of that of the Limousin; but although the horses bred in the latter district are swifter, and consequently better adapted for

hunting, they are, as chargers, inferior to the Norman horse. The draught-horse is only excelled (if it can be said to be excelled), by that of England or Flanders; its strength is not more remarkable than its symmetry. Lower Normandy, and especially the district of Le Cotentin, possesses a fine breed of carriage horses, which are not only lighter, but capable of enduring more fatigue than the Flemish horses. The government has several important establishments for the purpose of preserving the breed of the Norman horse.

The *cattle* about Caën are small, but finely formed: their heads not unlike that of the deer; their faces, as well as their legs, usually black. Those about Croissanville, at no great distance from Caën, are, on the contrary, generally red, of a large size, and always horned. Large flocks of sheep are fed in the neighbourhood of the coast; as the land is unenclosed they are usually attended by a shepherd and sheep dog, of remarkable sagacity, and of very peculiar appearance and character: about the head it bears a strong resemblance to the wolf. The care of tending the flock is often left to those faithful animals, and a boy, a woman, or a girl; for here, as in most other parts of France, the two sexes perform pretty indiscriminately all the duties of life. No great attention appears to have been paid in Normandy, until lately, to the breed of sheep; they are usually large and coarse, with red spotted faces and red legs; but, with a view to improve it, several flocks of Merinos sheep have been imported.

The *poultry* are abundant, and of excellent quality; the country is also well stocked with game, which are not so shy as they commonly are in England.

The *fisheries*, which afford employment to an immense number of hands, yield an abundant supply; a considerable quantity of fish, from Dieppe in particular, being sent to Paris. On approaching the coast the appearance of boats is very striking, the costume and persons of the fishermen presenting a strong contrast to that of the same class in England. They usually wear an elastic vest of scarlet, purple, or light blue, and very large breeches of coarse linen cloth; and are generally tall athletic men; with expressive, though sometimes ferocious, countenances. The Dieppe boats were once in the habit of frequenting the coast of Newfoundland, where a great quantity of cod fish was taken. But the herring fishery was of still more importance, and before the Revolution the boats belonging to Dieppe alone took no less on the average than 8000 lasts annually, which realised above £100,000 sterling. The mackarel fishery was almost of equal value.

Rouën, in Latin Rothomagus, the etymology of which antiquaries have vainly labored to discover, was formerly the capital of Upper Normandy, and an archiepiscopal see. It is still one of the largest, richest, and most populous cities in France, containing, together with its six large suburbs, nearly 100,000 inhabitants. Standing on the right bank of the Seine, at an easy distance from the sea, and only twelve leagues from Dieppe, and eighteen from the important port of Havre-de-grâce, it carries on an exten-

sive foreign commerce, and is besides a depôt for foreign merchandise of various descriptions. But, as the capital of a 'by-gone' province, it is perhaps, of more importance to advert to its pretensions as an object of antiquarian and historical research, than to enter at any great length into the particulars of its present state.

In 1262 Louis IX. granted the Aubette and Robec to this city, through which they are now conveyed in artificial beds, while, for above two leagues in the environs, they turn numerous mills. The most interesting of its public places or squares is the Place de la Pucelle, named in honor of Joan of Arc, who, it is said, was burned on the very spot now covered by the monument erected to her memory. On the stair-case of the exchange, called la bourse à couvert (for the merchants in fine weather assembled outside beneath the trees), is the following interesting inscription :

Mes amis,
Soyez moy bons sujets
Et je vous serai bon roy,
Et le meilleur roy
Que vous ayez eu !

Henri IV. aux Echevins de Rouën. Le 16 Octobre 1595.

The good Henry, who was very partial to Rouen, did not make a vain promise : he was indeed a good king. 'Should it please God,' said that truly great man, 'to prolong my life, there shall not be a peasant in my dominions without a fowl in his pot on the Sunday.' This, it is probable, has often excited the smile of individuals destitute of feeling, and who (unlike Henry IV.) have been always beyond the reach of want : it was certainly a singular speech for a king to make, but, homely as it may be, it is worth all the regal absurdities that were ever uttered.

The cathedral is a vast and sumptuous edifice. The grand western front, 170 feet in width, consists of a most splendid centre and two towers, each 230 feet high, but dissimilar in form and style. On one of them stood a lofty spire, originally of stone, which was struck by lightning in 1117, and replaced by another of wood, destroyed in the same manner at the commencement of the sixteenth century : a third, constructed also of wood, was struck in 1824, and entirely consumed ; its height was 395 French feet. Shortly after the destruction of the latter an idea was entertained of erecting another still more lofty of very light iron work. The basement of the building is occupied by three wide portals ; the middle one, by far the most magnificent, being profusely adorned with gorgeous open stone-work. A minute account of this splendid structure cannot here be attempted, and indeed a large volume would be barely sufficient to describe it at any length : it is besides the work of so many different eras that a detailed description would in itself form a history of pointed architecture. It contains 133 windows, and twenty-five chapels ; in one of these, on the south side, is the tomb of duke Rollo ; in the one opposite that of his son, William I. The length of the interior is 408 French feet ; of the nave 210 ; of the choir 110 ; of the transept 164.

Before the Revolution the chapter contained no less than fifty canons and ten dignitaries, the dean, the chanter, the treasurer, six archdeacons,

and a chancellor, besides eight minor canons and a great number of beneficiaries and chaplains. To these may be added the thirty female prebends of St. Romain, who were required to be unmarried or widows ; other qualifications were very possibly requisite, although they have not been recorded. The archdeacons had under them thirty rural deaneries, containing 1388 parishes, thirty of which were within the city, and five in the suburbs : these latter are now reduced to thirteen. There were twenty-nine abbeys within the see, including those of St. Ouen and St. Amand in Rouën : the city and suburbs also contained twenty-four religious houses for men, and twenty for women. The large independent income enjoyed by the church in France was, at the Revolution, most properly applied to national purposes, and its ministers are now paid by the government. An archbishop receives £625 sterling per annum ; a bishop £416 13s. 4d. ; a canon £41 13s. 4d. ; the departments allowing them about the same sum. It is true that, even before the revolution, if a comparison had been instituted between the revenues of the French and the English clergy, little objection could have been made to the incomes of the former. The archbishop of Rouën, one of the richest, enjoyed a revenue of 100,000 livres, rather better than £4000 sterling, while the bishopric of Durham has been known to produce £50,000, and that of Winchester £40,000 per annum, nearly equalling together the property formerly possessed by the whole church of France, which never exceeded in value £100,000 sterling per annum. The archbishop of Rouen formerly styled himself primate of Normandy.

Next in beauty to the cathedral, is the magnificent church of St. Ouen, perhaps the finest specimen of the pointed style remaining in France. The foundation of this elegant structure was laid in 1318, by Jean Rousel, abbot of St. Ouen, who finished it as far as the transept ; but it was not advanced to its present state until the commencement of the sixteenth century ; for it has never been completed, the west front being still imperfect. The imposing boldness of this superb pile cannot be described ; it is difficult to imagine how so much solidity and elegant lightness could have been combined ; this appearance of lightness is in a great degree caused by the extraordinary space occupied by the windows. The south porch is a master-piece of art ; and nothing can well be more impressive than the perspective of the interior, the arches being of fine proportions. The length of the church is 416 French feet, of the nave 234, of the choir 103, of the transept 130 ; the height of the tower is 240 feet, and of the roof 100 feet. Its abbots formerly enjoyed great privileges ; among others, they took precedence of all other mitred abbots in the parliament of Normandy, and had temporal, as well as spiritual jurisdiction, over the parish of St. Ouen.

The church of St. Godard, it has been imagined, was the original cathedral ; it still retains two of its fine painted windows, which are more worthy of notice than the architecture. St. Gervais and St. Paul, both without the walls, and of great antiquity, are the only specimens still existing of early ecclesiastical architecture.

The first castle built at Rouën was the work of duke Rollo, shortly after the conquest of Neustria; when it fell to decay its site was occupied by other buildings which have long since shared the same fate. About fifty years after the first was completed another was commenced by duke Richard I., which became the residence of the reigning family, and was long occupied by them. It acquired the name of la Vieille Tour, from a tower which formed part of it, and was not demolished till 1204; this building has also disappeared, although its name has been preserved. Its site is now covered by the Halles, esteemed the finest in France. The hall of the mercers is 272 feet in length, and fifty in breadth; that of the drapers and wool-dealers, 200 feet in length; and the corn-hall no less than 300 feet. Its military antiquities have long since disappeared, and Rouën is now completely unfortified; having neither walls nor castles.

The hall of the Palais de Justice is a magnificent Gothic structure, erected early in the sixteenth century, in the Close or Jewry, a spot inhabited by the Jews before their expulsion from Normandy in 1181; it occupies three sides of a quadrangle. The three estates of the duchy formerly assembled in this building; and, until the time of cardinal Richelieu, by whom the liberties of France were finally destroyed, they often formed an effectual counterpoise to the influence of the crown. The court of exchequer was also held here; about the year 1300 Philip the Fair rendered it stationary, commanding that its sittings should only be held at Rouën—it had till then been ambulatory. This court was remodelled by Louis XII.; and in 1515 it was enacted by Francis I. that it should be styled the 'parliament of Normandy.' The court of assize is now held within it, and here the electors of the department assemble, for the purpose of nominating their deputies.

Opposite to the Rue du Grand Pont, which descends from the Place de la Cathédrale to the quay, is the famous bridge of boats, extending across the Seine, generally considered an extraordinary work; although paved, it rises and falls with the tide. It is supported by nineteen large barges, and is so constructed that as many of them can be removed as necessary, in a very short notice, in order to allow vessels to pass; indeed it can be removed altogether with little difficulty in five or six hours, a precaution it is sometimes necessary to adopt during heavy floods. The expense of keeping it in repair amounts to about 10,000 francs, or £400 sterling annually. On the place de la Cathédrale, which may be termed the flower as well as fruit-market of the town, curious and beautiful flowers are exposed for sale. It formerly contained a fine college, an admiralty, and other establishments, which disappeared during the revolution.

Cæen, in Latin Cadomum, formerly the capital of Lower Normandy, is also a large and handsome city, seated on the confluence of the Orne and the Odon, the united stream of which rivers separates it from the fauxbourg of Vaucelle, a communication being established by means of the bridges of St. Peter and St. James. Many men of profound learning have occupied them-

selves in endeavouring to discover its origin. William le Breton, who was perhaps near the truth, imagined that it was founded by Caius, steward of the household to king Arthur or Artus; but, be this as it may, as a city it is not very ancient, and has only become considerable since the thirteenth century. Cæen was in the diocese of Bayeux, and had formerly an episcopal court under the jurisdiction of the bishop; an admiralty, a bailiwick, salt-granary, a chamber of finance and treasurers, and a mint, established by Henry II. It was also the seat of an intendency, election, forest-district; of the provost of the marshalsea, and of a provincial jurisdiction. The city, and its two large suburbs, contained two royal abbeys, one collegiate and twelve parish churches, fourteen convents, a Jesuits' college, a general hospital, and one for incurables. It is now the chief town of the department of the Calvados and of its prefecture. Viewed at a distance, it appears to cover as much ground as Rouën, but in reality is not above half the size. The castle, which stands on a rocky eminence, is the most extensive in France; it was formerly well fortified, and served as a defence to the Upper Town; some idea may be formed of its dimensions, when it is stated that 6000 men could be drawn up in battle-array with the greatest ease in the outer ballium.

The celebrated engineer, M. de Vauban, was of opinion that the mouth of the Orne might here be converted into an important naval station. Napoleon entertained the same idea, and ordered a basin to be excavated, intending also to deepen the bed of the river.

The university, founded in 1431, is now the third in France, those of Paris and Strasbourg being alone entitled to rank before it. The legal students have acquired an extensive and well-deserved reputation. The abbeys of St. Stephen and the Holy Trinity stand at opposite extremities of the town; these noble edifices, a lasting memorial of the ability of the architect who designed them, were both constructed at the same time, and from the same cause. William II., seventh duke of Normandy, the conqueror of England, being desperately enamoured of his kinswoman Matilda, daughter of Baldwin, count of Flanders, who was within the degrees of consanguinity then proscribed by the church, married her in spite of the remonstrances of the clergy. But pope Nicholas II., notwithstanding their clamor, sent a dispensation to William, authorising the marriage. 'Had he,' says lord Lyttleton, 'kept his oath to his people, as well as he did his marriage vow, he would have been the best of kings.' As popes, however, after the manner of other great men, seldom grant a favor without soliciting one in return, he stipulated that William and Matilda should each found a religious house for persons of their own sex. This was in the year 1059.

The church of the abbey of the Holy Trinity is a splendid building, its western front being perhaps the finest specimen extant, of the solid grandeur of Norman architecture, while some of the ornamental parts are of peculiar lightness. The towers were formerly surmounted by very lofty spires; the central tower is supported by

four arches of magnificent proportions. The grand western front of St. Stephen will not stand a comparison with the corresponding part of the church of the Holy Trinity; still, it is striking, as well as the east end; for even this part of the building is magnificent, in consequence of the grand scale on which it is constructed. St. Stephen, viewed as a whole, is of very imposing appearance; but it will not, like its rival abbey, bear to be examined in detail. The front is divided by flat buttresses into three compartments; the lateral divisions rise into lofty towers, crowned with octagon spires. The upper divisions of the towers, which are profusely ornamented, are surrounded by three tiers of semi-circular arches, each spire being surrounded by twelve pinnacles full of arches. The central tower is short, and surmounted by a conical roof. The stones with which this noble pile are constructed are all small, none exceeding a foot in length. The interior is lofty and truly splendid. Lanfranc, prior of Bec, afterwards archbishop of Canterbury, was the first abbé. King William, its founder, was interred here in 1017. Some buildings are still remaining within the precincts of the abbey, which are supposed to have been erected by the Conqueror, and are called his palace. The barons' hall and the guard-chamber are noble rooms, the latter 190 feet in length and ninety in breadth. Upon the outer wall of a chapel that was attached to the palace some ancient fresco paintings were formerly to be seen of William and Matilda, and of their sons, Robert and William Rufus. It was presumed, and not without reason, that they were coeval with those personages.

The church of St. Nicholas, converted into a stable, was founded by William the Conqueror, about the year 1060. It still remains entire; the interior is remarkable for its uniformity and the symmetry of its proportions. St. Peter is chiefly remarkable for its spire, which is not less than 400 feet in height; both that and the tower, from which it rises, were erected in 1303, but the church itself was the work of different periods. An airy lightness pervades the whole structure.

The church of St. Etienne le Vieil is spacious; its architecture a mixture of bad Gothic and bad Roman; its large pointed windows, adorned with fanciful mouldings and scroll-work, have an air of great richness. Its tower possesses some claims to beauty. St. John agrees, in most of its features, with the church of St. Peter; the towers are almost alike, but that of St. John is destitute of a spire. The interior is not highly ornamented. The style of the church of St. Michael, in the suburb of Vaucelle, is curious; some parts of it are, without doubt, early Norman.

Caën took a leading part in the civil wars that raged at the end of the sixteenth century, and in 1562 was occupied by the Huguenots, who abolished the exercise of the Catholic religion. Some time after the king's forces obtained possession of it; but the inhabitants, who were almost all Protestants, soon afterwards attacked the castle. Gaspard de Coligni, admiral of France, hastened to the assistance of the townsmen, and the castle was speedily taken. Charles de Bourgueville, Seigneur de Bras, and Huet,

bishop of Avranches, both natives of Caën, have illustrated its history and antiquities with extraordinary ability.

Havre-de-Grace, Portus Gratæ, or Franciscopoli, a strongly fortified port, the most important perhaps in France, is in the Pays de Caux, Upper Normandy, and was founded by Louis XII. in 1509, before which its site was occupied by a small chapel and a few wretched hovels. The chapel was dedicated to Notre dame de Grace, and the place is thence supposed to have derived its name. It was fortified and greatly extended, as we have noticed, by Francis I., who was extremely partial to it, and very desirous that it should be called after himself François-ville, but he was never able to succeed in changing the name by which it was already known. Louis XIII. also augmented the fortifications, and embellished the town. The harbour is of sufficient extent to contain 300 vessels, and thirty line of battle ships could ride together in the basin, which was formerly appropriated entirely to vessels of war. Cardinal Richelieu, who was for a long time governor of the town, greatly improved the basin, and built the citadel at his own expense, as a defence to the docks and arsenal, which is now demolished. The amiable Louis XVI., who, besides being an excellent geographer, paid great attention to maritime affairs, effected considerable improvements; and Napoleon, whose observation nothing escaped, however vast or however minute, completed all that had been left undone. It formerly composed a government of itself, and is now the residence of a sub-prefect. The large and handsome town-house was erected by cardinal Richelieu. Notre Dame, the principal church, which stands in the High Street, is of great extent, but not remarkable for its beauty, being a bad imitation of Roman architecture. Most of the houses are ancient, and seldom less than six or seven stories high.

Havre, of late become the first commercial port in France, was of great importance before the late war, at which period it monopolised the trade to St. Domingo, employing therein more than eighty vessels of above 300 tons burden; it had also an extensive intercourse with Martinique and Guadeloupe, and a lucrative commerce was carried on with the coast of Africa, especially with Guinea. At present the manufactories of France are principally supplied with cotton by the merchants of this town, who receive immense consignments from the United States of America, Brasils, and India. A great deal is taken by the manufactories of Bolbec and of Rouën. In the environs of the latter town, numerous cotton manufactories have been established, especially in the direction of Malaunay, on the road to Dieppe, about three leagues and a half from Rouën: the villages are thickly studded with them, and at Malaunay itself some of these factories are very splendid buildings; many of them the property of the Baron Le Vavasseur, an opulent and extensive manufacturer. It is chiefly from Havre, also, that Alsace is supplied with cotton as well as Paris, Lyons, Lisle, St. Quentin, &c. The most important branch of its foreign commerce is that carried on

with the United States of America, to which an immense quantity of manufactured goods is exported, such as jewellery, fancy millinery, paper for decorating rooms, &c. A great traffic is also carried on with South America, especially with the Brasils, from which they receive coffee and sugar; and a commercial intercourse has recently been established with Mexico.

Since the termination of the late war the commercial and manufacturing prosperity of France has been gradually increasing, and of this the town of Havre-de-Grace affords a signal instance. In the eleventh year of the republic the contributions of the department of the Seine-inférieure amounted to 9,104,417 francs; in the year 1826 the receipts of the customs at this port alone, amounted to the comparatively enormous sum of 24,000,000 francs, and in 1827 to 22,000,000. England, however, thus far, appears fully to have maintained her superiority, as will appear from the following statement:—

Liverpool, the first port in England, after that of London, paid duties in 1826 . £3,074,637,

And in 1827 £3,297,980.
Havre-de-Grace, the first port in France, paid duties in the year 1826 £960,000.
And in 1827 £880,000.

The receipts of the customs at the port of London, which amounted in 1826 to £10,291,877, and in 1827 to £10,402,859, it would not be fair to contrast with the contributions of the city of Paris; the latter having no foreign trade, unless, indeed, the exportation of some few articles of luxury can be considered in that light; but Liverpool and Havre-de-Grace may be fairly contrasted; and it appears from the returns of their respective custom-houses (supposing the duties imposed to be nearly of the same nature), that during the last year the commercial operations of the latter town amounted to only about one fourth of those of Liverpool.

The following is a rough comparative view of the present population of the French and British capitals; of that of the two principal manufacturing towns, and of the principal ports in each country.

	Inhabitants	
France contains about	31,000,000	} the daily papers and periodical pamphlets amount to . 490
The British Isles	23,000,000		. 483
London	1,275,000	. 97
Paris	890,000	. 176
Glasgow, the first manufacturing town of Great Britain	147,000	. 14
Lyons, the chief manufacturing town of France	146,000	. 13
Manchester the second ditto of Great Britain	134,000	. 12
Rouën, the second ditto in France	100,000	. 8
Liverpool, the first port in England, London excepted	119,000	. 9
Havre-de-Grace, the first port in France	35,000	. 4

It should be recollected that London may now be said to comprise several different places, whereas Paris contains no addition except the village of Chaillot, which became an integral part of it when the city walls were extended.

The situation of Havre is not only highly advantageous and important, both as commanding the mouth of the river by which the capital is approached, and as one of not only the first commercial towns in the kingdom, but as one of its principal naval stations. The environs are particularly fine; nothing can exceed in beauty the côte of Ingouville, about a mile from the town, the sides of which are almost covered with handsome seats and beautiful villas, most of them in excellent taste. The view which it commands is truly magnificent. The town of Havre, beautiful from its regularity and extensive fortifications, and the handsome suburbs of Ingouville lie beneath; the noble Seine, nine miles in breadth, forming the splendid bay of Harfleur, rolls on in front to the channel; on the opposite side of the river lie stretched the fertile and well-wooded plains of Lower Normandy, extending as far as the eye can discern, and forming a vast bay, which cannot be less than twenty leagues in extent; to the right is the ocean.

Dieppe, Dieppa, is a large and handsome town of Upper Normandy, in the Pays de Caux, at the mouth of the Arques. It is a place of great antiquity, and was originally called Bertheville; but, being one of the first places occupied by the Normans, it was by them named Dyppe, or

Dieppe, which, it has been asserted, signified in their language a good anchorage. Of the correctness of this assertion it is now perhaps hardly possible to judge; Diopen or Dyppen certainly signified, in the ancient Gothic or Teutonic, to stick, or to inflict a puncture, and might, therefore, also have meant to anchor. Bullet, a profound Celtic scholar, deduces it from Celt. deu, two, and pal, a rock, the *u* being changed into *p*, before another *p*, making Deppal or Deppa; which, according to him, signified a town situated between two rocky mountains. But, with all due deference to so high an authority, if a Celtic origin is to be ascribed to this town, the word Dieppil, which in that language signified sterile or barren, seems a more probable derivation; for, although the country around Dieppe is by no means so barren as that of the opposite English coast, it is much less fertile than many other parts of the French coast, especially to the west, where the vegetation is exceedingly luxuriant. It is probable that, before it had experienced the fostering care of the Normans, the land presented but a naked appearance, especially to the east, great part of it being occupied by a Roman encampment, which is in existence at the present day. Dieppe is seen to great advantage from the sea, but the harbour can only be entered by merchant vessels, ships of war not venturing nearer than the outer road. It possessed a town-house and was governed by a mayor at the commencement of the thirteenth century. There were formerly a college, two hospitals, ten monasteries, and two churches.

The church of St. Jacques, the finest specimen of ecclesiastical architecture the town now contains, is of the style that has been termed 'decorated English,' or 'florid Norman Gothic,' and was commenced about the year 1260. The church dedicated to St. Remi is of the seventeenth century. From the tower of the first mentioned there is a very extensive view, but a still finer one is obtained from the castle which stands on a steep hill and has a most venerable and imposing appearance; its lofty and extensive walls are flanked with towers and bastions. The sailors of Dieppe are undoubtedly the finest in France, of which they have afforded innumerable proofs. Three-fourths of the inhabitants of the suburb Polet are fishermen; and are called Poltese. Both in their costume and speech they present a striking contrast to the citizens of Dieppe; they neither speak, nor do they perfectly understand, the French language.

On the western pier stands a small house, which cannot be viewed without pleasurable feelings; it was constructed by order of Louis XVI. for the residence of a sailor who had preserved the lives of several shipwrecked mariners, and whose meritorious conduct had reached the ears of his sovereign. It bears the following inscription:—

A JN. AR. BOUZARD, POUR SES SERVICES MARITIMES.

As it has been well observed by a judicious writer, 'the French are wiser than we are in erecting these public memorials for public virtues; they better understand the art of producing an effect, and they know that such gratifications bestowed upon the living are seldom thrown away. We rarely give them but to the dead. Captain Manby, to whom above 130 shipwrecked mariners are even now (1819) indebted for their existence, and whose invention will probably be the means of preservation to thousands, is allowed to live in comparative obscurity; while, in France, a mere pilot, for having saved the lives of only eight individuals, had a residence built for him at the public expense, received an immediate gratification of 1000 francs, enjoyed a pension during his life, and, with his name and his exploits, now occupies a conspicuous place in the history of the duchy.'

After the death of Henry III., his successor, Henry IV., retired to Dieppe in 1589, shortly after which, he defeated the duke de Mayenne at the battle of Arques, almost under the walls of the town. It was afterwards taken by the army of the league, but submitted to the king in 1594. In 1694, as we have already seen, it was taken by the English, and partly destroyed. Being nearer to Paris than any other port, it is much frequented for sea-bathing.

The general *antiquities* of Normandy can only be briefly enumerated. Among the most remarkable is the abbey of Fécamp, founded in 664 or 666, by Waning, count or governor of the pays de Caux, for a community of nuns. The Normans, under Haesten or Hastings, destroyed it in 841; but, after they had obtained possession of the country, it was rebuilt by duke Richard I. in 988, who established here a

chapter of regular canons. This magnificent church is 370 feet long, and seventy in height; the transept 120 feet long, the tower 200 feet high. Here were the tombs of dukes Richard I. and II. It formerly contained a large library, enriched with numerous manuscripts, and containing several original deeds and charters of William the Conqueror and his successors. The exterior of St. Etienne, one of the ten parochial churches of Fécamp before the revolution, is very imposing. The palace and fortifications have long since disappeared. The church of St. Georges de Bocheville, at the village of the same name, about two leagues from Rouën, was built by Ralph de Tancarville, the preceptor to the conqueror, and afterwards his chamberlain. The charter was granted a few years previous to the conquest. The building is still in good preservation, and is not only the most magnificent, but the most genuine specimen of the circular style at present existing in Upper Normandy.

The ancient cathedral of Lisieux is a noble specimen of early pointed architecture; its western front, seen to great advantage from a spacious square, is of solid simple grandeur. It is now the parish church of St. Peter. The cathedral of Bayeux is a medley of various ages; the two Norman towers of the western front are bold and massy, with semi-circular arches in the highest stories. The spires, as well as the surrounding pinnacles, are Gothic. The bishop of Bayeux has always been considered the first among the suffragan bishops of the Norman church, and, in the absence of the archbishop of Rouën, presides at the ecclesiastical councils. The abbey of Bernay, founded at the commencement of the eleventh century, by Judith, the wife of Richard II., was once very celebrated, but is now, like Judith herself, rapidly crumbling to dust. The cathedral of Evreux is a medley of many different styles and ages; the interior is handsome, some fine specimens of painted glass are still remaining in the windows. The west front of the church of St. Giles, which has been converted into a stable, is highly interesting; some other churches in Evreux that were not destroyed during the revolution were in the same manner converted to other uses. The abbey of Jumieges, near Dücler, though simple, is striking; the lofty towers are seen from a great distance. The western front, which consists of three distinct parts, still remains almost perfect. The stone with which this edifice was constructed is particularly white. Gournay has a collegiate church dedicated to St. Hildebert, founded at the end of the eleventh century, but not completed until two centuries afterwards. The windows in the western front are all painted. The records of Gournay are very ancient, beginning as far back as the reign of Rollo, who gave the town, together with the Norman portion of the pays de Brai, to Eudes, a Danish or Norwegian nobleman, to be held as a fief on the usual conditions.

The abbey church of Montivilliers, not far from Havre-de-Grace, is the work of different eras, but on the whole is handsome; the tower,

a noble specimen of the Norman architecture of the eleventh century, is still standing. Harfleur, although once a place of great importance, is now chiefly remarkable for its church, the style of which is extremely rich; the tower and spire are very elegant, and connected by flying buttresses of extraordinary beauty. This town, formerly a port, has been gradually deserted by the Seine, from which it is now at some little distance, and that which was the harbour is now a beautiful meadow. The names of many ports in Normandy have precisely the same termination, as Barfleur, Fieffleur, Honfleur, Vittefleur, &c.; but they originally terminated in flot, Barfleur being anciently called Barbeflot; Harfleur Hareflot; Honfleur Huneflot, &c. Flot signifies a wave or the tide, and also the flux and reflux, and appears to have been bestowed upon places beyond which the tide flowed up. Harfleur and Honfleur, indeed, are close to the mouth of the Seine.

Normandy contains several other magnificent abbeys and churches, which can here only be named; as the abbey of Ardennes, the church of Arques, the magnificent abbey of Bec, founded in 1071, Bernieres, Bonport, Bretteville, l'Orgueilleuse, Broglie, Cormeilles, Creully, Ducler, Ecouis, Gisors, Léry, Louviers, Moulineaux, Pavilly, Pont-Audemer, Pont-de-l'Arche, Preaux, St. Evroul, St. Germain de Blancherbe, St. Gervais, and the Holy Trinity at Falaise, St. Jacques at Lisieux, Vernon, Yainville, &c. &c. A great number were destroyed during the revolution, and the relics which they contained given to the winds. For the gratification of true believers and the curious, we may observe, that they consisted of several cart-loads of bones of distinguished saints, forty-five teeth and three ears of the Blessed Virgin, and two heads of the Holy Baptist, both undoubted originals! There were also several important castles and fortresses. The castle of Arques, near Dieppe, stands at the extremity of a ridge of chalk hills; of its ancient power and importance some idea may be formed from the extent of the moat, which is little less than half a mile in circumference; the outline of the walls is an irregular oval. That of Gisors which was erected by Robert de Bellême, in 1097, by command of William Rufus, consists of a double ballium; the inner one occupies the top of a high artificial mound, in the centre of which stands the keep. The outer walls were of great extent, and the whole fortress of the most solid masonry. The castle of Falaise is a noble ruin, possessing an impressive character of strength, which is much increased by the fresh appearance which the stone has retained. The castles of Bayeux, Brionne, Creully, Montfort, Neufmarché, &c., are also highly interesting; as well as the fortresses of Anet, Château-sur-l'Epte, Ivry, Nonancourt, Tillières, Verneuil, &c. About two miles to the east of Dieppe there is a Roman encampment on the brink of the cliff called Cæsar's camp, still in excellent preservation. The remains of a Roman amphitheatre are to be seen near Lisieux, and at Lillebonne there are very curious Roman antiquities.

Normandy contains numerous and flourishing

manufactories. Rouën and its vicinity have manufactures of cotton, linen, and woollen cloths, cotton velvet, druggets, and lace; it has also manufactures of china, several sugar-houses, and has long been renowned for its sweetmeats, in which it has an extensive trade. The art of painting on glass has for many centuries been practised there, and has been carried to the highest state of perfection. In the environs there are a great many cotton mills. The manufactures of Drametal, near Rouën, consist principally of coarse cloths and flannels. Caën has numerous factories of superfine cloth, on the excellence of which it would be superfluous to expatiate, the great superiority of the French cloths, both in beauty and durability, having been long acknowledged. Its other manufactures consist of serges, dimities, lace, hosiery of all descriptions, hats, &c. A considerable quantity of cloth is also made at Elbeuf, Sedan, Louviers, &c., which is highly esteemed, and at Lisieux and Bernay ordinary woollen and cotton cloths are made, as well as linen and flannels. Havre-de-Grace has manufactures of tobacco, vitriol, cordage, china, paper, pasteboard, lace, &c., it has also some sugar-houses. The construction of vessels, and the repairs required by those frequenting the port, affords employment to great numbers. The inhabitants of Dieppe are very skillful workers in ivory, an art in which they are perhaps unrivalled; large consignments of ivory were made to that town, from the settlement which its mariners had formed on the coast of Senegal, as early as the fourteenth century, at which period its citizens first embarked in this useful and lucrative occupation. Dieppe is also famous for its watch-springs, and for its lace and toys. Bolbec has extensive cotton manufactures, besides some of cloth, cotton-velvet, and lace, several tan-yards, and manufactures a great deal of cutlery. Falaise produces hosiery and lace. The manufacture of the latter article, which employs a great number of hands, is chiefly carried on at Alençon, Bayeux, Caën, and Honfleur. Normandy has also several glass-houses. The fisheries, which are very lucrative, afford employment to immense numbers. In the Avranchin, the Bessin, and the Cotentin, a great quantity of white salt is made. The Pays de Brai produces excellent butter; that of Gournay, one of its principal towns, is particularly renowned; and Neufchatel is no less famous for its cheese. Cider, the universal beverage of the lower classes, is produced in great abundance, particularly in the western districts; that of Avranches is the most highly esteemed.

The lofty stature and fair complexion of the Normans sufficiently attest their northern origin: they are scarcely darker than the inhabitants of the southern coast of England, and are the fairest people in France, with the exception of the inhabitants of Picardy, Artois, and perhaps of Brittany. They are a hard and athletic race; taller and stouter than the English, the Northumbrians excepted, who were also of Norman blood. Their countenances are in general handsome, and those of the women very expressive. Although simple in their dress, they are very

cleanly. The costume of the female peasantry may be also styled simple, but it is striking and pleasing: their dresses and aprons are usually of scarlet or blue; when the dress is of the first, the apron is always of the last mentioned color. Their head-dresses are very peculiar: in the Pays de Caux they are of great height; and those worn on Sundays and fête days, being composed of expensive lace and decorated in front with silver, are preserved with great care, and frequently transmitted down through two or three generations. Their ears are adorned with very long gold ear-rings. The nicety of their linen is remarkable; clean linen, indeed, is a luxury pretty freely indulged in by all classes throughout France, and in large towns frequent use is made of the bath. The females of the middle and lower classes at Dieppe wear very high caps, the lap-pets of which conceal their hair; black, blue, or scarlet corsets, and very full petticoats of the latter color; black stockings and white aprons. On fête-days their necks are usually adorned with gold or silver crosses. But the most remarkable costume is that of the inhabitants of the suburb Polet, in Dieppe, who have preserved the costume of the sixteenth century. Over their trowsers they wear short wide petticoats; their waistcoats are of woollen, confined in front with ribands; a surtout, longer than the petticoat, completes their dress, the color of which is always red or blue, the seams being faced with white silk about an inch in width; they always wear caps of colored cloth or velvet.

The Normans are industrious, economical, and temperate; lively, ingenious, courteous, and brave: they are also keen, far from credulous, and of sound judgment. The nobility and gentry live well, and usually much within their income; not being infected with the contemptible ambition of vying with each other in splendor and expense, after the manner of the corresponding classes in England: fortunately for France, this happy disposition is not confined to Normandy. But, notwithstanding their economical habits, the French have always been remarkable for their hospitality. The merchants of Havre and Rouën live somewhat more expensively; one of the usual, and perhaps unavoidable, consequences of successful commerce. The lower classes are content with very plain fare, voluntarily submitting to what would be deemed in this country, by people of their rank of life, severe privations: they seldom drink any thing but cider, and that of very indifferent quality. The peasantry live for the most part in villages; detached cottages are indeed rarely seen.

The Normans in all ages have been devoted to literature, in which they have greatly excelled. As defenders of their country, they have also been preeminent; and to Normandy, especially the town of Dieppe, the French marine is indebted for its most valuable recruits. The famous admiral Abraham du Quesne, the successful rival of de Ruyter, was a native of that town; and the first expeditions to Florida were undertaken by its sailors, by whom also (as it has been contended, and with great appearance of truth) Canada was first discovered: it is at least certain that they established a colony in that country

for commercial purposes; they were also the first Europeans who made a settlement on the coast of Senegal, as early as the fourteenth century. The lower classes, as in all other parts of France, are very free in their manners towards their superiors, and impatient of contradiction and control; but they are honest, faithful, and sober. In the towns the inhabitants have not much peculiarity in their accent; but the peasantry have a singular drawl, and a singing tone of speech. The Normans have always been accused, and probably not without reason, of being extremely litigious: it is very certain that, before the laws were revised and simplified, law-suits were more frequent; but, since they have been digested into the present admirable code, the necessity for them has been almost removed, and a French citizen cannot now be ruined either by costs or vexatious delays. In the worst of times, however, a lawyer, comparatively speaking, was a rare sight in France: this happy island appears to be the elysium of the legal tribe, and probably contains more of them than the whole continent of Europe.

The Scandinavian tribes, on their first settlement here, were idolaters. Shortly after this event duke Rollo was persuaded to embrace Christianity, and entered the bosom of the Romish church: since that period the *Catholic religion* has principally prevailed in Normandy; but the Protestants of the Calvinistic church are very numerous, and highly and deservedly respected. Many of them derive their descent from noble and ancient houses, which were ruined during the persecutions of Louis XIV.; for, in some few instances, their members were not driven into exile. But France, which then, and by subsequent emigrations, lost, in consequence of the folly and bigotry of her sovereign, 500,000 virtuous and valuable citizens, who were forced to take refuge in Holland, Germany, and England, now sets the world a brilliant example of liberality. Great exertions have, it is true, been made since the re-establishment of the house of Bourbon, to restore the ancient order of things, or, in other words, to cause the nation to retrograde to the state of slavery under which it groaned during the reign of Louis XIV.; to extinguish the light and intelligence so universally diffused, and to replace them by darkness and ignorance. But the ages of priestcraft and tyranny are rapidly rolling by; and the endeavours that are making, and doubtless will yet be made, to arrest their passage, are likely to prove as futile as the efforts of the magician of former ages to arrest the passing storm. It is however but justice to the Catholic clergy to state that some among them are far from viewing in a favorable light the injudicious measures adopted in their behalf; they are fully impressed with a sense of the danger to which they are thus exposed, and as fully convinced of the propriety of their exclusion from all secular power and influence. Many of them are men of unquestionable learning, virtue, and integrity; and when it is considered with what indefatigable zeal most of them perform duties, infinitely more laborious than those required from the clergy of the established church of England, and that too for one-

tenth, and sometimes one-twentieth, part of the stipend of the latter, it is impossible not to feel convinced that they must have entered on their office from conscientious motives. Indeed, whatever the Catholic church may once have been, it is certainly no longer available in France as a means of pensioning off on the public the idle and dissolute youth of the higher and middle classes. Religion no longer forms part and parcel of the political machine in France; the law does not recognise any of the acts of the clergy, nor will the judicial authorities receive in evidence any document signed by them; and if their acts happen to be of an illegal nature they are now tried with as little ceremony as their lay brethren. At the revolution the registers throughout France were taken out of the hands of the clergy, and transferred to the civil magistrate; they are now deposited at the municipalities; and the form in which they are drawn out is admirable, and well worthy of imitation, especially in England, where they are said to be kept much worse than in any other country. Every French citizen is required, within three days of the event, to give notice of the birth of a child to the mayor of the district in which it has taken place; marriage must be contracted before the same magistrate, the parties repairing to the municipality, where the marriage is enregistered: if a priest should presume to perform that ceremony before the civil contract has been made, which is all that the law requires, he would be punished by a long imprisonment and a heavy fine. Of the ceremonies of baptism, the sacrament of marriage, or the interment, the law takes no notice, wisely permitting the citizens who live under its influence to have them performed in the manner most agreeable to their consciences. How far an equal degree of regard should be shown to the feelings of dissenters in protestant England, one of our poets would seem to decide:—

True freedom is where no restraint is known,
That Scripture, justice, and good sense disown,
Where only vice and injury are tied,
And all from shore to shore is free beside. *Cowper.*

Normandy has given birth to so many illustrious men that the natives of that country might be pardoned if they carried their national pride to a great length: the Normans, however, with more just ground for pride than most other nations, are usually unpresuming, liberal in their opinions of others, and ready to do ample justice to the merits of foreigners. Rouën had the honor of giving birth to Peter Corneille, the father of the French drama, called by his countrymen the Shakspeare of France. He was born June 6th, 1606; his father had been ennobled for his services by Louis XIII. In 1637 came forth the *Cid*, a tragedy, which gained him a vast reputation. This he supported by many other admirable performances, which, as Bayle observes, 'carried the French theatre to the highest pitch of glory, and assuredly much higher than the ancient one at Athens.' He was of a melancholy cast, and spoke little in company, even upon subjects which he perfectly understood; was of exemplary conduct, and by no means dexterous in making his court to the

great, which was, perhaps, the principal cause why he never derived any considerable advantage from his productions. But he gained an immortal name. He was the author of nine comedies and twenty-two tragedies; but his comic humor was inferior to his tragic powers. He died in 1684, in his seventy-ninth year. His portrait is painted on the curtain of the theatre of his native town, on which is also inscribed P. Corneille, natif de Rouën, and on the ceiling is painted his apotheosis. His bust adorns the entrance of the house in which he was born in the Rue da la Pie; an inscription to his honor has also been placed there, and a tablet erected to his memory. The same tribute of respect has been paid to the memory of his nephew, author of the *Plurality of Worlds*, who was born in the Rue des bons Enfans. See CORNEILLE (Thomas). The illustrious Fontenelle was also born at Rouën, and the learned Samuel Bochart, author of *Sacred Geography*, and of the *Hieroziöicon*; Basnage, who wrote the *History of the Bible*; Sanadon, the translator of Horace; Pradon, satirised by Boileau; du Moustier, author of the *Neustria Pia*; and father Daniel, the famous historian; Jouvenet, one of the most celebrated painters of the French school, and others of great reputation; Deshays, Houël, Leger, Le Monnier, Le Tellier, Restout, Saquespéc, &c. It was besides the birth place of Peter Bardin, Noël Alexandre, Nicholas Le Tourneux, Nicholas Lemery, &c. &c. Caën has been hardly less fertile: among its illustrious sons may be enumerated Francis Malherbe, Tanneguile Le Fevre, James Dalechamps, a celebrated physician, author of the *Historia Plantarum*; the laborious lexicographer Constantin; Stephen Le Moine; John and Clement Marot, the poets; John Renaud de Segrais; the celebrated Peter Varignon; the famous Daniel Huët, bishop of Avranches; father Fournier, &c. I. F. Sarrasin and G. A. de la Roque came from its immediate neighbourhood. Havre-de-Grace, although its first foundations were laid little more than three centuries ago, has produced a host of learned men: J. A. P. Amelot, author of *Louis IX.*, &c.; P. N. Beauvalit, a famous sculptor; James Henry Bernardin de St. Pierre, his principal works are *Etudes de la Nature*, *Paul et Virginie*, *La Chaumiere Indienne*, a fine and masterly satire on the clergy; he also wrote many other works of great merit; J. P. A. Blanche, author of Latin poems; Bonvoisin, a famous portrait-painter; G. T. Clémence, author of several theological works; Nicholas Cordier, who died in 1728, he wrote some works on nautical affairs; J. B. R. R. d'Apres, a celebrated geographer and hydrographer; his talents and acquisitions were extraordinary: J. F. C. Delavigne, a celebrated dramatic writer, still living; Du Boccage de Bleuille, a merchant and very learned man; the abbé Diequemare, an excellent naturalist and good painter; G. Le Hautoir, a painter and engraver, famous for his perspectives; L'Aignot, Larry, Le Sueur, J. B. Levée, author of the biography of the celebrated men of Havre, of a translation of the works of Cicero, &c. &c.; G. I. L. de Masseille, the baron Rouilh, maréchal de Camp, Michel D. B. Ivon, a distinguished

soldier, who fought in all the campaigns from 1793 to 1806; he was promoted to the rank of adjutant-major, and was always addressed by the flattering title of the brave Ivon. He was killed at the bridge of Kolozombin, being the first who attempted to force a passage.

Dieppe gave birth to Richard Simon, Bruzen de la Martiniere, Pecquet, Dom. Le Nourry, the fathers Crasset and Gouye, &c. Poussin, the great master of the French school, was born at Les Andelys in 1594, of poor, but noble parents. Notwithstanding his state of destitution his talents and perseverance at length bore down all obstacles. The learned Adrien Turnèbe was born at the same place. Simon Vigor was born at Evreux; the abbé de Valmont and William Dagoumer at Pont-Audemer; the celebrated sculptors the Anguier, at Eu.

The origin of the ancient Scandinavians, or Normans, has never been very satisfactorily ascertained. Their early history, indeed, is involved in so much obscurity, and is so mixed with fable and fiction, that it is impossible to rely with any degree of confidence on the narratives extant. Disposed, however, to consider these relations as the offspring of ignorance and superstition, rather than of wilful misrepresentation, we must endeavour to separate that which may be true from that which is evidently false; we must examine and attentively consider probabilities, while we reject without hesitation miracles and impossibilities. The Scandinavians appear to have been one of the most important of the Gothic tribe (the Getæ of the ancients) who, at a period antecedent to all authentic history, emigrated from Asia, and settled in the north of Europe. It is probable that they were originally of the same race as the Celts; but that people differed so materially from the Goths that great doubts have been entertained on this head, and the assertion has been hazarded that they never could have been derived from one common source. It has been asserted by some authors, who have maintained their opinion with great force of reasoning, that this quarter of the globe was originally peopled by two distinct races of men, the Celts and the Sarmatians; the latter being the ancestors of all the Slavonian tribes, viz. the Russians, Poles, Bulgarians, Wallachians, Bohemians, Carinthians, &c., who to this day continue distinct and separate from the nations of Celtic race; different in their characters, language, manners, institutions, and frequently in religion: while from the former are descended all the other European nations. It has been contended by others that the Celtic and Gothic, or Teutonic nations, have been thus most improperly confounded; as the latter people could neither have been derived from, nor did they constitute part of the former, but were, ab initio, a perfectly distinct nation. Many circumstances, it must be confessed, conspire to lead us to this conclusion; nothing could be more opposite than their manners and customs; their laws also were different, and a freedom pervaded the institutions of the Goths that was unknown to the Celts; neither did their religions bear any resemblance. The Druids, so revered among the nations of Celtic race, were

unknown to the Goths, who respected only their scalds; the former worshipped, or at least greatly revered, the oak; the latter the ash; the former highly prized the mistletoe; the latter regarded it as a noxious weed. To the Celtic nations letters were unknown; the Gothic tribes were in possession of them, and not only revered the inventors, but the letters themselves, although it is probable that this acquisition was confined to their scalds or bards; but, be this as it may, Runic inscriptions in the north of Europe are not by any means uncommon.

A consideration of still greater importance is the language of these two nations, than which nothing could well be more unlike. That they differed very essentially in this point, as well as in those already mentioned, we have the express testimony of Cæsar and Tacitus. The accuracy of the former few will doubt; he had resided a long time in Gaul, had traversed it from one extremity to the other, and had observed its inhabitants with the closest attention. He informs us that the Celts or Gauls differed in language, customs, and laws, both from the Belgæ, who were of Gothic origin, and from the Aquitani, who it is possible were originally an Iberian people:—'Gallia est omnis divisa in partes tres: quarum unam incolunt Belgæ, aliam Aquitani, tertiam qui ipsorum lingua Celtae, nostrâ Galli appellantur. Hi omnes lingua, institutis, legibus, inter se differunt.' From Tacitus we learn that the Celts or Gauls differed in their persons from most of their neighbours; that they strongly resembled the Britons, as the Germans resembled the Caledonians, and the Silures the Spaniards:—'Habitus corporum varii:—rutilæ Caledoniam habitantium comæ, magni artus, Germanicam originem adseverant. Silturum colorati vultus, et torti plerùmque crines, et posita contra Hispania, Iberos veteres trajecisse, easque sedes occupasse fidem faciunt: proximi Gallis, et similes sunt.' Whether Spain was originally peopled by the Celts is much to be doubted, and cannot now be ascertained; but it is at least certain that it was partially colonised by them. That they differed from the Germans in most important points we may easily satisfy ourselves by a further reference to Cæsar. It was not only in remote ages that the Celtic and Gothic tongues differed, the same difference continues to exist in the languages spoken by the descendants of those two nations at this very day; for while the languages of the Welsh and the Britons, notwithstanding that they have been disunited above twelve centuries, has been so little altered that the natives of those countries can, without much difficulty, understand each other, the Welsh and the English, although living in the same island, under the same laws, and become as it were the same people, still continue to speak languages perfectly dissimilar. On the other hand, although the English have been separated above thirteen centuries from the Saxons (their ancestors), their language is radically the same, and bears a close affinity to that of the Belgians, the Swiss, the Danes, and the Swedes.

Proof of this sort is irrefragable, and cannot fail, we submit, to convince us that from the Celts were derived the original inhabitants of

Gaul and Britain, and the present inhabitants of Brittany, Wales, Cornwall, parts of Ireland, the Highlands of Scotland, and perhaps of Biscay in Spain; while from the Goths were derived the ancient Germans and Scandinavians, and the present inhabitants of Germany, England, Belgium, Helvetia, Denmark, Sweden, and Norway. It is true, however, that on submitting the Celtic and Gothic languages to a comparison with the Hebrew, so many words will be discovered in both, which must have been derived from that language (unless they were received into those three tongues from some other ancient language), that one is almost led to infer that the Celts and the Goths must have proceeded originally, though at a period antecedent to the existence of any historical records, from one common stock. Some powerful causes must, however, have existed for the extraordinary change which, during a long course of ages, took place, not only in the language, but in the persons of those Celtic tribes, known to the ancients under the general name of Goths, if these latter really were of Celtic race. The different regions which they peopled and inhabited might have been a leading, though by no means a sufficient cause, for the strong contrast which they presented, and which the descendants from those two stocks still continue to present; but as no satisfactory evidence on this subject is now likely to be obtained, and their history being of more importance than their origin, a brief sketch of the Scandinavians, the most northern of the Gothic nations, is here submitted.

The Ases, a Scythian people, who appear to have inhabited the country situated between the Black Sea and the Caspian, had for their chief Sigge, who assumed the name of Odin or Woden, the supreme deity of the Scythians; possibly, in order to seduce his followers into the belief that he was himself a divinity, or because he filled the office of chief priest. Having assembled around his standard the flower of his own and of the adjoining nations, he marched to the west, and entered Europe, subduing, as we are informed, the countries through which he passed, and erecting them into kingdoms for his sons. He then turned his thoughts to the north, and, directing his thoughts towards Scandinavia, entered the Cimbric-Chersonesus, which now comprises Holstein, Sleswig, and Jutland. That region being but thinly peopled, its inhabitants were incapable of making any effectual resistance, and passing thence into Funen, of which he as easily took possession, he founded, it is said, the city of Odensee. Having overrun the remainder of the Danish provinces, and penetrated into Sweden, which as speedily submitted, he ruled with unlimited authority, introducing the laws and customs of Scythia. But, notwithstanding their extent, his conquests do not appear to have been commensurate with his desires; and, having turned his arms against Norway, his usual success attended him. Odin, full of glory and renown, withdrew to Sweden, and, perceiving symptoms of his approaching dissolution, scorned to wait until that life, which had been so constantly exposed to danger, should be terminated by slow and tedious disease. He assembled his warlike

adherents around him, and inflicted on his person several wounds with his sword and lance, and, just before he expired, informed them that he was about to retire to Scythia, to enter into the society of the gods. His body was carried to Sigtuna, and, in conformity with a custom of which he was the author, it was burnt with much ceremony. It has been imagined by some that the rancorous hatred which this extraordinary man bore to the Romans was the principal incentive to all his actions. Forced by those lordly republicans to abandon his country, his hatred knew no bounds; for the Scythians conceived themselves imperatively called on to avenge all affronts offered to their name and nation. This hatred he communicated to all the people of the north, by whom it was cherished from generation to generation, till, falling in concert on that once powerful empire, after repeated attacks they finally accomplished its overthrow.

To the Roman historians we are indebted for our information respecting the first attack made upon the republic by the northern nations in the year of Rome 644, and 109th before the Christian era. Her liberties were already endangered by internal disputes and factious intrigues, when information was suddenly received of the approach of a vast body of barbarians (as the Romans were accustomed to term all without the pale of their empire) amounting to above 300,000 men. This mighty army consisted principally of the Cimbri, or inhabitants of the Cimbric-Chersonesus, the most southerly of the Scandinavian tribes, who had allied themselves with the Teutones, the Tigurians, and the Ambrones. The Gauls had been unable to arrest their progress, and, as it was supposed that this host was preparing to pass into Italy, dismay was imprinted on every countenance. This was during the consulship of Cæcilius Metellus and Papirius Carbo, the latter of whom was instantly despatched with a powerful army to occupy the passes of the Alps; but the Cimbri took a different direction, and halted on the banks of the Danube. The Romans, somewhat recovered from their just alarm, seemed now resolved to carry matters, as usual, with a high hand, and sent to desire them not in any way to molest the Norics, their allies. To this message the Cimbri sent a respectful answer, professing their readiness to turn their course elsewhere, and their desire to avoid incurring the displeasure of the republic. The consul, satisfied with this appearance of moderation, offered no opposition to their departure, and they retired into Dalmatia, whither the Romans followed them. Watching a favorable opportunity, Carbo attacked them by night; but the Cimbri, indignant at this treacherous act, seized their arms, beat back the Romans, and put them to flight. This repulse was attended with disastrous consequences; for all the nations that were desirous of throwing off the Roman yoke immediately ranged themselves under the banners of the Cimbri. Thus reinforced, they again burst into Gaul, and endeavoured to pass into Spain, but were repulsed by the Celtiberians, a people of Celtic race who had settled near the Iberus, and added the name of the river to that of their nation. Frustrated in this attempt, they despatched

an ambassador to the Romans to propose terms of peace, which having been rejected, they attacked the army under the command of M. Junius Silanus with the greatest fury, and entirely destroyed it. Cassius Longinus was shortly afterwards defeated by the Ambrones; another Roman army, more numerous than the former, soon after shared the same fate, above 80,000 of the Romans and their allies perishing on the field, and, to complete their misfortunes, a fourth army, under the command of the consul Manlius and the pro-consul Servilius Cæpio, was completely defeated.

Every eye was now turned towards Marius, who alone seemed able to avert the impending ruin. Catulus Luctatius, whose military abilities were scarcely inferior, was associated with him in the command. Marius, well aware of the errors of his predecessors, determined to pursue a very different course. He resolved not to give the enemy battle until their ardor had become somewhat cooled, and, with this view, encamped in an advantageous position on the banks of the Rhone; but this prudence being mistaken for pusillanimity, the enemy, having first endeavoured to force his entrenchments, in which attempt they were unsuccessful, resolved to pass into Italy. Marius allowed them to file off unmolested during six days, when, quitting his position, he followed them as far as Aix, in Provence, where he attacked and partially defeated them, slaying great numbers; he then retired to his camp, ordering strict watch to be kept. Shortly afterwards his army, being advantageously posted on an eminence, was attacked by the Teutones; the fortune of Rome this day prevailed; her armies were once again triumphant. If we may rely with confidence on the relations of her historians, above 20,000 of the enemy were slain, and 90,000 made prisoners. This was in the year of Rome 653.

But the Cimbri still menaced the safety of the republic; arrived on the banks of the Adige, Catulus Luctatius was unable to arrest their passage, and they crossed that river. They halted near the Po, in the hope of being joined by the Teutones, of whose late defeat they were ignorant. Marius, at the head of a new army raised in haste, advanced to meet them, and they came to an engagement on the plain of Verceil. The infantry of the Cimbri was formed into a large dense square; their cavalry, superbly mounted, was above 15,000 strong. The Romans were drawn up in two wings, with the sun at their backs, a circumstance very advantageous to them. The Cimbri, exhausted by the intense heat of the weather, against which they were less able to contend than the Romans, became dispirited, and were soon defeated; the dust had prevented them from perceiving the inferior forces of the Romans, as these latter, from the same cause, were ignorant of the vast number of their adversaries. An expedient which they had adopted, in order to prevent their ranks from being broken, now served to render their overthrow the more complete; the soldiers of the foremost lines had been linked together with chains, and thus, becoming entangled, were the more easily cut down by the Romans. Upwards of 140,000

of the Cimbri are said to have fallen on that fatal day; but few escaped to tell the dreadful tale; and, if we except them and the small number who had remained at home, their whole nation may be said to have perished at a blow. This was in the year of Rome 652, and the 101st before the Christian era. Little mention was afterwards made of them by the Roman authors, whose accounts of the Cimbrian war must be received with due caution; for, as the Cimbri had no historians of their own to record their actions, the Romans, fearless of contradiction, had it in their power to give whatever coloring they pleased to events in which they were engaged, although they appear to have recounted their own defeats with great impartiality. Strabo records that they endeavoured to cultivate the friendship of Augustus; and Tacitus briefly informs us that they had preserved nothing but their distinguished name, and a renown no less ancient than extensive—'Parva nunc civitas, sed gloria ingens, veterisque famæ latè vestigia manent.'

Formidable as were the ancient Scandinavians by land to most of the nations of Europe, their naval expeditions excited still greater terror, and were far more destructive. In the infancy of society, when manual arts are unknown, and agriculture but little attended to, the inhabitants of a maritime country generally embrace a piratical life; this was the case with the Greeks in very remote ages, as we are informed by Thucydides. The northern nations, however, did not adopt this course of life till very late; Sidonius Apollinaris, a learned Gaul, who was born at Lyons of an illustrious family, in the early part of the fifth century, is the first author who touches on the piracy of the Saxons. In the sixth epistle of his eighth book he thus notices them:—'Est Saxonibus piratis cum discriminibus pelagi non notitia solùm sed familiaritas—Hostis omni hoste truculentior; improvisus aggreditur, prævius elabatur, spernit objectos, sternit incautos.'

Agriculture indeed, in consequence of the barrenness of the northern regions, could not afford employment to many; but fishing gave occupation to vast numbers, although in the end it conducted them to piracy. For, as the people of one district traversed the ocean, they often met with those of another, whom they regarded as rivals and the desire of obtaining undivided possession of some particular bay or creek would often give rise to disputes. At length open attacks were made, which generally ended in the capture of some of the vessels. The success which attended the first attempts of the Normans gradually incited them to greater enterprises; they ventured farther from their coasts, and explored unknown seas, so that during the eighth, ninth, and tenth centuries, the ocean literally swarmed with their vessels, and from one extremity of Europe to the other the maritime provinces were continually exposed to their attacks. It is hardly to be doubted, however, that their naval forces, in consequence of the peculiar manner in which they carried on their operations, appeared much more considerable than they really were; and this was also the case with respect to the amount of their population. For, as their vessels were

lightly constructed, and drew but little water, they were not only enabled to disembark at almost any point of the coast at pleasure, but could penetrate with ease up every river. Hauling them ashore, and leaving them sufficiently guarded, they commenced by putting the whole neighbourhood under contribution, and, when they did not find sufficient booty, advanced in quest of more into the interior of the country; then, safely embarking their spoils, hastily disappeared. But, the moment their treasures were landed on their own shores, they either returned to the scene of their late devastations, or tried their fortune in some other quarter not far remote, so that the people of one particular district might be repeatedly pillaged by the same hands. It sometimes happened that ample preparations had been made to receive them, in which case the Normans, whose only object was plunder, speedily retreated, but as quickly showed themselves elsewhere; whence again, if they perceived themselves likely to be foiled in their attempts, they would as hastily decamp. Thus the inhabitants of the countries exposed to their attacks, seeing them every moment in so many different quarters, naturally conceived very exaggerated notions of their number. England, during two centuries, was almost incessantly devastated by them and sometimes subdued; Ireland and Scotland were also subject to their incursions.

Before the reign of Charlemagne they were greatly feared; they had penetrated into every sea which bordered on his dominions; but that great prince, to prevent them from entering the rivers of his empire, stationed fleets at the mouths of them; the admirals were styled 'comites, ad custodiendam oram maritimam, deputati;' on his death, however, in 814, they became still more formidable. They spread like a devastating tempest over Lower Saxony, Friesland, Holland, Flanders, and ravaged the coasts of Courland, Livonia, and Pomerania. France was overrun by them, and at length utterly ruined. So great was the fear which the continental nations entertained of this people, that a supplication was delivered from so dreadful a visitation was introduced into the litany, 'a furore Normannorum libera nos, Domine!' They even carried their arms into Spain, Italy, and Greece; so that after having gained the north-western extremities of Europe by land, they at length attained its south-eastern extremities by sea; thus, once again approaching the deserts of their ancestors. Robert Wace, Vace, or Vaice, or, as he calls himself, maistre Wace, a native of the island of Jersey, who had studied at Caen, wrote, at the request of Henry II., king of England, and duke of Normandy, the *Roman de Rou* (Rollo) et des Ducs de Normandie; in which performance he does not give by any means a favorable character of his forefathers:—

La gent de Danemarche fu toz tems orgueilleuse,
Toz tems fu sorkuidée (presomptueuse), è mult fu
convoitose;
Fière fu, préisant (arrogante) gaie è luxuriose.
Nuz homs ne se teneit à une fame exposé;
De plussors fames orent à merveilles enfanz,
Mult i out de petiz, è mult i out de grant
Mult i out filz, è filles è fames è serjan (domes-
tiques);

Ne pout sa gent paistre tres tout li plus mananz
(riches);
Ne pout pas sufire quanque il gaignoient,
A paistre li enfez, ki trop multiplioient.
Por ço avint sovent ke par sort, kil gatoioient (jetaient)
Des forz è des meillors, la terre delivroient:
Fust par terre, fust par mer, du paiz les cachoient
(chassaient);
Cil feseient grant mal kel part ke il aloient.

The first descent which the Normans made in England was in the year 787, when a small body landed, from three ships in Wessex, in order to reconnoitre the country. The reeve, or magistrate of the place, summoned them to appear before the king, in order to account for the object of their visit, on which they slew him, and, retreating to their ships, departed. Six years afterwards they landed in Northumberland, and returning the next year plundered Wearmouth abbey; but some of their leaders being slain, and their ships much damaged by a storm, the whole of them were either drowned or put to the sword by the inhabitants. In 832 they pillaged the isle of Sheppey, and the next year disembarked at Charmouth, in Dorsetshire, where they were attacked by king Egbert: a desperate engagement ensued, in which, although the Normans had the advantage, they lost so many men that it was deemed advisable to retreat to their ships. In 835 a large body of them landed in West Wales, or Cornwall, and, being joined by the Britons, advanced into Devonshire, but were defeated by king Egbert at Hengesdown. Two years afterwards, having attacked Southampton, they were repulsed by Wulferd, alderman or governor of the county; the same year they were attacked in the isle of Portland by Ethelhelm, the alderman, who at first gained ground, but eventually was defeated and slain. They also engaged the English in East Anglia and Kent, and defeated king Ethelwulf at Charmouth.

It was about the year 808 that the coasts of France began to be grievously harassed by their attacks. A few years afterwards they sailed up the Seine, and endeavoured to penetrate into the interior of Neustria, but were repulsed. In 841 they again ascended the Seine, and pillaged all the places seated on its banks: four years afterwards, under the command of Regner Lotroc, or Lodbrog, king of Denmark, they advanced as far as Paris in 120 boats, and the city being abandoned on their approach, they acquired immense booty: the clergy and the monks, as usual, were the first to take flight, carrying with them their relics, and, that which they valued still more, their treasures. But, some years after this event, the Normans had the satisfaction of capturing this important corps de reserve. In the year 849 a large army under the command of Eric, who assumed the title of king of Denmark, landed from 600 vessels at Hamburg, plundered the city and penetrated a great way into Germany. In 856 they again pillaged Paris, and burnt almost all the churches, a few only being spared, for which they received large ransoms. Two years after this, Hasten or Hading, better known as Hastings, their famous admiral, passed the straits of Gibraltar. He had previously sailed up the Somme, ravaged the adjacent

country, and set fire to the towns, plundering the monasteries and churches, and drowning the bishop and clergy of St. Quentin; thus, for once, giving them their fill of water instead of wine. He then proceeded to Neustria. The magnificent abbey of Fécamp was one of the first objects of his attack; the nuns, it is said, disfigured their faces in order to escape the violence of the Normans; but, if they preserved their chastity by these means, they lost their lives, for the northmen brutally put them to the sword, and destroyed the convent. The abbey of Jumieges shared the same fate; but the lazy monks, amounting to 900, escaped with their relics. At length, not satisfied with the immense booty which had been acquired in France, Hastings resolved to visit Rome, of the riches of which he had heard exaggerated rumors. He accordingly put to sea, and, when arrived within the straits of Gibraltar, the work of devastation commenced: he plundered the coasts on the north and south, sacked several maritime towns of Spain and Africa, and, landing on the coast of Tuscany, assailed Luna, near Genoa, which he mistook for Rome, probably owing to some little similarity in the sound of Luna and Roma. The strength of the fortifications for some time baffled all his efforts, but, having at length entered its walls by stratagem, Hastings himself commenced operations by splitting the skull of the bishop at a blow; thus, as Maistre Wace exclaims, full of indignation,—

‘————— colpa la teste,
Com se ce fust une vil beste.’

‘Treating a bishop like a brute beast.’

The followers of Hastings first despatched the clergy, and then massacred the count or governor and his barons, the city being abandoned to pillage and slaughter. On his return home from Italy, where he had wasted his strength to no adequate end, he boasted of having destroyed the mistress of the world. About Easter, in 861, the Normans re-appeared at Paris, which they plundered and burnt, as well as the monastery of St. Germain-des-Près, in which they had the pleasure of surprising the monks, ‘catching at last the hogs in the sty,’ on whom, as they entertained no very favorable predilection towards them, they always wreaked their vengeance in preference to the laity, deeming ‘the watchful dog to be much better than the lazy hog;’ then, sailing up the river, they committed further depredations. Orleans, Poitiers, and Le Mans in Brittany, were taken and burnt; at the attack on the latter Robert Le Fort, duke of Paris, the ancestor of Hugh Capet, was slain.

In 851 they again harassed England, and, although worsted both on land and at sea, they ventured to take up their winter quarters in the isle of Thanet, and there remained unmolested until they removed a year or two afterwards to the neighbouring isle of Sheppey. In 866 Ethelred succeeded his brother Ethelbert: his whole reign was one continued scene of trouble, owing to the irruptions of the Normans. After many desecrate conflicts, fought with various success, he was defeated by them at Basing, and shortly afterwards at Marden. At this critical juncture

Ethelred died of a wound he had received, so that the cares of government devolved on his brother Alfred, then twenty-two years of age, who was no sooner seated on the throne than he found himself compelled to take the field. No fewer than nine battles were fought that year to the south of the Thames, besides innumerable skirmishes. The intrepid Alfred continued for some years to make head against his formidably enemy; but, strong reinforcements continually arriving, the northmen were enabled to keep the field. Another large body having landed and surprised Chippenham, Alfred could no longer bear up against the torrent that deluged the kingdom. At the expiration of a twelvemonth he received intelligence that the enemy had been partially repulsed, when, quitting his retreat, he stormed their camp at night, being well acquainted with it, and put the whole of their army to flight. Those who escaped the slaughter took refuge in a fortified camp, which Alfred immediately reduced to great straits. By this decisive stroke he procured for himself and his subjects several years of repose, until his improvements and projects were cut short by death, in 901.

The Normans, thus discomfited in England, let loose all their fury against the continental states; and France, in particular, was now doomed to feel this scourge with additional horrors. Hastings once more repaired to that unfortunate country, his forces having been augmented by all those who had felt averse to accept Alfred’s offer of settling peaceably in England, and he continued these ravages until it was no longer in a condition to subsist his army: smiling provinces were converted into gloomy deserts, and covered with the smoking ruins of towns and villages. France had scarcely begun to recover from these devastations when another Norman chief appeared at the head of a powerful army. This was the celebrated Rollo. No historical event is more interesting, nor were the consequences of any of more importance than this inroad of the Normans into Neustria; for the descendant of their successful leader was destined to subdue England, and not only to change its laws and customs, but the manners, and in some degree the language, of the country,—events which even now excite our astonishment. Duke Rollo had a few years before (about 870) incurred the displeasure of Harold, surnamed Harfagre, king of Denmark and Norway, in consequence of having disobeyed a proclamation issued by that monarch, shortly after he had completed the conquest of the latter country. Being desirous of procuring repose for his subjects, who inhabited the coasts, Harold prohibited all chieftains, under the severest penalties, from exercising any hostilities against their own country, notwithstanding which Rollo made a descent on the province of Viken, and carried off a great quantity of cattle. The king, happening to be in the neighbourhood, was greatly incensed at this, and instantly condemned him to perpetual banishment. But the decrees of sovereigns are sometimes more easily promulgated than executed, and thus it proved in this case. Deaf to the remonstrances of his honest and faithful counsellors, who

represented to him the impolicy of driving from his country so powerful a man (for Rollo was the son of Rognevald or Roguald, the king's favorite iarl, a dignity similar to that of a feudal baron), and the danger of such a measure on account of the misfortunes he might occasion should he become desperate,—Harold remained inflexible. Rollo, after a long contest with that monarch, having been expelled his hereditary dominions, and entertaining but faint hopes of retaining possession of them, began to look towards the more genial and inviting countries of the south, as offering him a permanent if not a superior settlement. With this view he set about collecting a large body of troops, composed of Danes, Norwegians, Swedes, and other northern tribes, who had been induced by his reputation to join his standard; and, their numbers being augmented by several of his old subjects, he found himself at the head of a powerful army. He first sailed to the Hebrides, whither the flower of the Norwegian nobility had retired in disgust after Harold had obtained possession of their country; they immediately joined him, on which he directed his course towards England, against which long harassed country his first attempts were directed. But the wise and prudent chief soon perceived that in this enterprize he had but a poor prospect of success; Alfred had now for some years been seated on the throne; he had introduced into his dominions an order until then unknown, had rendered his subjects firmly attached to his government, and was fully prepared to repel any invader. Rollo, convinced that fewer obstacles would present themselves in that quarter, now therefore directed his operations against France; at this time under the feeble sway of Charles the Simple. Disembarking at Walcheren; he defeated the count of Hainault, and some other nobles, compelling the countess to pay an immense sum for her husband's ransom. He then bent his course towards Neustria, and sailing up the Seine took possession of Rouën. Pleased with its situation, he repaired the fortifications, and thus secured an important station, whence he could march upon any part of France. The whole kingdom was thrown into consternation. Hastings remained at Chartres, and the French king, conceiving that from his knowledge of the invaders he would be the best adapted for an envoy, requested him to ascertain from Rollo what object he had in view. He received for answer that the Normans were resolved to push their conquests as far as possible. Preparation for a vigorous defence was thereupon made, but resistance proved vain; the French were repeatedly defeated; Evreux, Bayeux, Nantes, and other considerable towns were taken, the whole of the western districts laid waste, and Paris itself was besieged. Not to enter at length into the events of this war, it may suffice to observe that the entire cession of the greatest part of Neustria followed, and that Charles, being unable to make head against so warlike and politic a chieftain, thought it advisable to relinquish to him part of his dominions rather than be dispossessed of the whole. The Normans, having thus obtained possession of the most fertile and valuable portion of the kingdom, retired, it

is said, into Brittany, until their newly acquired dominions were reduced to a state of cultivation; for, in consequence of their own repeated devastations, Neustria had been reduced to an uninhabitable desert.

Charles had an only daughter, Giselle or Gisela, whom he offered in marriage to Rollo; and, independently of the territory which he was compelled to surrender by treaty, ceded to him as a marriage portion a considerable tract; but when it was intimated to the Norman duke, that it was requisite he should prostrate himself at the feet of the French monarch, and acknowledge him as his supreme lord, according to the feudal rites, he peremptorily refused to submit to such a ceremony, and it was a task of great difficulty to prevail on him to allow it to be performed by deputy. Rollo was soon after persuaded to embrace Christianity, and was baptised with much ceremony by the archbishop of Rouën, in the cathedral of that city, by the name of Robert, after the duke of Paris, who stood sponsor to him: a week after that event he received the hand of the princess Giselle. Many of his chiefs and followers submitted to baptism at the same time. Thus it was that Normandy became a separate and independent state; and Brittany, once a kingdom, sunk into an *arrière fief*. This was the origin of that renowned duchy, and of its ancient dukes, whose blood, mingled with that of the royal house of France, afterwards gave monarchs to England, and from among whose subjects, Sicily received her kings!

The conquests of Rollo were slowly but securely made. Upwards of five-and-thirty years had elapsed from his first arrival, until the final cession of Neustria, during the whole of which period he was occupied in consolidating his government, and in conciliating the affections of the Normans and the original inhabitants of the country. To the latter he allowed the free exercise of their religion, and his liberality in this respect was equalled by the refined policy which he evinced in other matters. Good legislators are the only true conquerors: his regulations for the security and administration of his new dominions would have done honor to the most experienced prince of a more polished age. To defend his states against the attacks of his enemies, he erected several strong forts and filled them with veteran troops: and, his long military experience having fully convinced him of the advantages of civilised warfare, he accustomed his followers to submit to regular discipline. On his countrymen, he conferred lands and seigniorial rights, while the taxes which he imposed on the conquered were far from severe. He conceded to both more extensive privileges than were at that time enjoyed in any other part of France; which encouraged the inhabitants of the neighbouring provinces to settle in Normandy. The government, after all, which Rollo established was however a sort of military aristocracy, the great body of the people having little or no authority either in framing or in ratifying laws; but, so long as the Norman dukes remained in the country, they were ruled with the greatest equity; although, after their accession to the English throne, the feudal barons, having no superior at

hand to watch their conduct, committed many excesses. To repair the devastations of preceding years he paid the greatest attention to agriculture; and such was the extraordinary fertility of the soil, and the skill and industry of its new proprietors, that Normandy in a few years became one of the finest provinces of Europe. He founded more churches and monasteries than he had destroyed; but he limited the privileges of the clergy, rendering them dependent on him as their temporal head. The system of internal administration which he established was rigorous, and he evinced great but necessary severity in his judicial capacity. Theft was punished with peculiar rigor, the punishment being proportioned to the offence: the culprit was condemned to lose a hand, a foot, his eyes, or even his life, according to the nature of his crime, and so great was the dread inspired by the examples which he made of some notorious offenders in this way, that the crime became almost unknown. We are informed by Wace that the peasantry were in the habit of leaving their agricultural implements in the fields at night, and that if any of these were stolen, and the thief remained undiscovered, the duke always made them good. Rollo, now far advanced in years, became desirous of repose, and began to think of withdrawing from the cares and toils of government. He determined to abdicate in favor of his son William, and applied himself with zeal and diligence to the final settlement of his dominions: having had the satisfaction of establishing perfect order throughout the state, and of securing a prompt and impartial administration of justice, he resigned the government in the year 917, and died in 922, universally and deservedly regretted. He was buried in the cathedral of Rouën, where his tomb is still to be seen.

William I., second duke of Normandy, surnamed Longa-spatha or Longue-épée, assumed the reins of government on his father's abdication. Rollo having resigned the duchy to his son, with the consent of his subjects, this young prince promised to maintain the laws by which they had been always governed, as well as the statutes of his father: he in consequence did homage to Raoul, regent of France, who had usurped the royal authority. All historians agree in representing him as one of the most amiable and accomplished princes of his time, notwithstanding which he fell a victim to the treachery of Arnoul, count of Flanders, at whose instigation he was assassinated at Pequigny on the 17th of December 942. He was also interred in the cathedral of Rouën, in the chapel opposite to that which contained the remains of his father.

Richard I., surnamed the Old and the Hardy, succeeded his father while yet in infancy; for at the time of his death he was only ten years of age. Bernard the Dane, his guardian during his minority, and he himself after he had attained his majority, were incessantly occupied in counteracting the efforts of Louis IV. king of France, surnamed Trasmarine, and the no less vigorous attempts of Lothaire, his successor, to recover possession of Normandy. During the twenty-five years that the late duke had reigned the

Normans had become thoroughly incorporated with the French, and had acquired their language and manners. Great advances were made in civilisation; and the state of society must have improved rapidly, for on his assassination his son, although a child, tranquilly succeeded him. Duke Richard, being hard pressed by Lothaire, was under the necessity of calling to his aid an army of northmen; but his allies, not satisfied with laying waste the dominions of the French monarch, continued their devastations in Normandy, and were with difficulty prevailed on, even by the payment of large sums, to return home, and allow the two princes to come to amicable terms; for, as they truly observed, 'that was not what they came for.' Richard I. died in 996, after a long and glorious reign of fifty-four years, and was interred in the abbey church of Fécamp. He was succeeded by Richard, his eldest son.

Richard II., surnamed the Good and the Intrepid, fourth duke of Normandy, enjoyed less tranquillity than his father, treason and intrigue being during his reign often at work. Lothaire, who reigned in France when Richard succeeded, affected to consider this prince only as his lieutenant, whose duty it was to guard the frontiers of the kingdom, and therefore addressed him by the title of marquess. In consequence of this, some nobles, whom the former dukes had invested with fiefs of great dignity, thought themselves entitled to refuse doing homage for them to Richard. The count of Hiesmes, his natural brother, was of the number, and was richly punished for his temerity. Notwithstanding the singular specimen which his father had received of the friendship of the northmen, Richard II. was also under the necessity of summoning them to his assistance. He maintained himself with difficulty against the formidable attacks of Robert, king of France; and being at length in danger of losing the territory so gloriously acquired by duke Rollo, his great-grandfather, invited over the Danes from England. King Ethelred, although by no means sorry to be thus rid of them, was struck with the important effects that might attend an alliance with that warlike nation; for, although the Normans of France and England had been separated for nearly a century, they appeared to be ever ready to uphold the interests of those whom they still considered their countrymen. He was now a widower, and turned his thoughts towards Emma, one of the daughters of Richard I. and sister of the reigning duke, who was of exquisite beauty. He sent to demand her hand in marriage, which having been granted, she repaired to England in the year 1002, where her nuptials were celebrated. Ethelred being subsequently dispossessed of his kingdom, by Swein king of Denmark, was compelled to take refuge, with his queen and children, at the court of Normandy, where he was most hospitably received; but on the sudden death of the Danish monarch at Gainsborough, on the 3d of February 1014, the English, desirous of emancipating themselves from a foreign yoke, invited him to return home. The king, on his arrival, acting with uncommon promptitude and vigor, shortly obliged the Danes to quit the

kingdom; but they soon returned again under Canute or Knute, overran great part of the country, and committed great excesses. At this unfortunate crisis Ethelred expired, on the 23d of April 1016, leaving his family and kingdom in the most dreadful circumstances. Prince Edmund, his eldest son, vigorously asserted his right to the crown, and had succeeded in obtaining possession of great part of the kingdom, when he was murdered at Oxford: the English now made no further opposition, quietly submitting to the government of Canute. The duke of Normandy, however, evinced a determination to espouse the cause of his nephews, Alfred and Edward, who were both at his court. He first sent ambassadors to Canute, to request him to cede to the two princes some part of the possessions of their ancestors. But the embassy arrived at a moment when the Danish monarch was so firmly seated on the throne that he at once and altogether refused the request. This so incensed Richard that he fitted out a large fleet, resolved to compel him, if possible, to do justice to these princes, and embarked for England with a numerous and powerful army. He was doomed however to witness the destruction of the greatest part of his fleet during a violent tempest, a loss which he could not easily repair. Canute in the meantime, feeling convinced that the Norman duke intended to attempt the restoration of his nephews, and aware of the danger to which he was exposed from the enmity of so warlike a people as the Normans, proposed to relinquish in favor of the former, part of the kingdom of Wessex, and made an offer of marriage to queen Emma, the widow of Ethelred, stipulating that the English crown should descend to the children of this marriage. These offers having been accepted, Emma once more repaired to England where she was married to Canute in 1017. Richard II. died in 1026, after a reign of thirty years, and was buried near his father in the abbey church of Fécamp. He was succeeded by his eldest son.

Richard III., fifth duke, was no less exposed to the machinations of the seditious than his father; but the grief which his brother Robert caused him in taking possession of the county of Hiesmes and using every endeavour to supplant him (although his intrigues proved unsuccessful), shortened his days, and he died in 1028, having reigned only two years: some have said by poison, but this was never satisfactorily proved.

Robert II., surnamed by his subjects the Liberal and the Magnificent, and by his enemies Robert the Devil, succeeded to the ducal throne. He had now attained the object of his wishes. Although his conduct towards his brother cannot but be severely condemned, his character as a sovereign commands our respect, for he proved himself a wise and just one. He acquired and preserved the affection of his subjects, and his valour caused him to be feared and respected by his enemies. It was owing to his powerful aid, that Henry I. of France took possession of the throne, notwithstanding the opposition of his younger brother Robert, who was supported by a powerful party. The French monarch repaired to Rouën to request his assistance, when Robert first

sent to his aid 500 spearmen, and soon followed himself at the head of a large body of troops, and with them he placed Henry without opposition on the throne, and left his younger brother in possession of Burgundy. The king, grateful for so signal a service, protested that he would be always mindful of it, and immediately resigned to the duke of Normandy the cities of Chaumont and Pontoise. His protestations, however, appear to have been pretty soon forgotten. Robert's reign offers nothing further worthy of notice, if we except the custom which his vassals had adopted of making him presents when they did homage, and the address with which he caused the principal nobles of his duchy to acknowledge his natural son, William, as their sovereign, before his departure on a pilgrimage to the Holy Land, on his return from which he died, July 2d 1035.

William II., seventh duke of Normandy, and first king of England of the Norman line, over which he reigned by the title of William I., was born in 1024, and on the death of his father was only in the eleventh year of his age. His mother, Arlotta, was the daughter of William, Rollo, or Fulbert de Croy, generally reputed a tanner at Falaise, although it is more probable that he was a private gentleman of Normandy; it is at least very singular, if such was his profession, that he should have borne the illustrious name of de Croy. His father having induced the states to swear fealty to him before his departure for Jerusalem, carried him into France to do homage to the French king for the duchy, and left him under the care of that monarch. The moment that Robert's death became known several powerful nobles, descended from the ducal family, claimed the succession, which, in the common course of things, would have devolved on the count of Arques, half-brother by the father's side of the late duke; but the states declared they would not violate the oath they had taken, and that they were determined to acknowledge William. Ambassadors were thereupon despatched to the king of France to demand the young prince. On his arrival at Rouën, Raoul de Gace, constable of Normandy, was appointed his governor, while the discontented barons, his kinsmen, broke out into open rebellion. The first claimant that appeared, was Roger de Tresney or Toeni, standard-bearer of Normandy, descended from Malahulcius, an uncle of duke Rollo: he was soon defeated and slain by Roger de Beaumont, who commanded the duke's forces. The next claimant was his uncle, William, count of Arques, and in fact the rightful heir to the crown. William put himself at the head of his army, and quickly obliged him to retreat to Arques, which he immediately invested: the king of France endeavoured to raise the siege, but was twice repulsed. After some time the count surrendered, and was sent into exile. Guy or Guido of Burgundy, count of Vernon, a son of Adelis or Alix, one of the daughters of duke Richard II., now preferred his claim, and his competitor appeared so formidable that William applied to the king of France for aid, and that monarch, either feeling compunction for having attacked a young prince already sur-

rounded with enemies, to whose father he was indebted for his own crown, or for some other reasons, granted him the required assistance. Guy, being taken prisoner, was, with a generosity that reflects honor on his conqueror, pardoned and set at liberty. William, count of Montagne, and William, count of Eu, son of a natural brother of Richard II., also attempted to set themselves on the throne, but were defeated and banished. William subsequently exiled almost all his relatives by his father's side, on account of the trouble they had caused him, and, confiscating their estates, bestowed them on his mother's relations.

The Danes, although their power in England may be said to have been crushed by Alfred, still continued to infest the kingdom, until they once again obtained entire possession of it under Canute. On the marriage of that prince with Emma, it had been settled that the English crown should descend to their children; on his death, however, Harold, surnamed Harefoot, his son by a former wife, seized upon it; but Harthacnute or Hardiknute obtained the crown of Denmark, and, on the death of his half brother Harold, succeeded to that of England. Alfred and Edward, the sons of Emma by king Ethelred, remained during the life time of their Father-in-law at the court of Normandy, but on his decease repaired to England. Alfred was treacherously way-laid near Guildford, at the instigation of Harold, and, being taken prisoner, his eyes were put out, and he was confined in the monastery of Ely, where he died. Emma, in consequence of this event, fled into Flanders, and Edward, her only surviving son by Ethelred, returned to Normandy; she remained abroad until Harold's decease in 1039, when, on the accession of Hardiknute, she once more returned, and prince Edward quitted Normandy a second time for England, to return no more. When he ascended the English throne he followed the customs of that duchy, and introduced many of them into this country: the French language was spoken by most of the nobility, and the Norman forms were made use of in legal proceedings. Titles, bishoprics, and lands, were conferred upon several Normans; the court became filled with them, and at last, by their influence, earl Godwin and his sons were driven out of England. But they were too powerful to be thus annihilated, and soon returning, at the head of a considerable force, obliged the king to dismiss those foreigners; among the rest, Robert, archbishop of Canterbury, who died in exile. Edward's affections, however, remained unchanged. The duke of Normandy had paid him a visit during the absence of earl Godwin, and these two princes, who had always maintained the strictest friendship, ever after kept up a close correspondence. It was during this visit that the king, who had no children (for he had abstained from all commerce with Editha, his wife, the daughter of earl Godwin, the hatred which he bore the father having, apparently, descended to the child), secretly promised to appoint William his successor to the English crown.

But Harold, the son of Godwin, ascended the

throne on his death. He had formerly been driven by a storm on the territories of the count of Ponthieu, who detained him, in the hope of receiving a large ransom; having complained of this treatment to the duke of Normandy, the count was compelled to release him. William, considering this a favorable occasion to confide to Harold king Edward's intentions respecting the succession, forced him to swear that he would give every assistance in carrying them into effect; but his guest did not consider himself bound to observe an oath so unjustifiably extorted. When William received the intelligence that Harold had mounted the throne, he was filled with indignation, and instantly despatched an ambassador to upbraid him with his perfidy.

The military renown of the Normans had, at this time, been carried to the highest pitch; their daring enterprises had been almost universally crowned with success, and a spirit of military adventure had become very generally diffused: the great reputation that William enjoyed made every one eager to serve under his banners, and so strong was the influence which his transcendent genius had acquired over the Normans, that, when he determined to invade England, they offered of their own accord to furnish him all the aid he required. He was thus enabled to assemble in a few months a fleet of 300 vessels, and sailing from the harbour of St. Vallori, on the 28th of September, 1066, landed without opposition at Pevensey, in Sussex. Harold, who was then at York, put himself at the head of his army, and hastened to meet the invader: a sanguinary action was fought near Hastings, in which he lost his life and the Normans proved victorious. William thereupon advanced to London, which soon opened its gates, and on Christmas-day, 1066, was crowned in Westminster Abbey king of England, by the archbishop of York. He died at the abbey of St. Gervais, near Rouen, September 9th, 1087, in the sixty-third year of his age, in the fifty-second of his reign over Normandy and the twenty-first of his reign in England, and was interred in the abbey of St. Stephen of Caen, of which he was the founder. To his eldest son, Robert, he bequeathed Normandy and Maine; to his second son, William, he left the crown of England; and to Henry, his third son, the property of his mother.

Robert III., surnamed Gambaron of Courte-Heuze, eighth duke, succeeded on his father's death to the ducal throne: this prince was too much carried away by his passion for military glory to pay much attention to the general government of his dominions. He desired to distinguish himself in the crusades to the Holy Land, and, having absented himself on one of those expeditions, his brother William had the administration of Normandy. After the death of William Rufus, violent dissensions arose between Robert and his brother Henry, which ended in the defeat and capture of duke Robert, who, after a long imprisonment, died in confinement.

Henry I. king of England, surnamed, in consequence of his great literary attainments, Clericus or Beau-clere, ninth duke, succeeded to the government of Normandy, on the death of his

brother Robert, so that England and Normandy were once again united.

Stephen of Boulogne, king of England, was the tenth duke. After the death of Henry, his uncle, Stephen, a son of Adela, one of the late king's sisters, who had married Stephen, count of Blois, took possession of the thrones of England and Normandy, to the exclusion of Matilda, his cousin, only surviving child of king Henry I.

Geoffrey Planta-Genistæ or Plantagenet, count of Anjou, the second husband of Matilda, was the eleventh duke; but Eustace, son of Stephen, king of England, disputed the duchy to his death, and both competitors did homage for it to the king of France. On their decease both England and Normandy devolved on Henry II. the son of Geoffrey and Matilda.

Henry Plantagenet, second of the name in Normandy and England, twelfth duke, ascended the throne in 1151. He was the author of several important statutes; a patron of learned men; and it was at his request that Wace wrote his important work, entitled *Roman de Rou et des Ducs de Normandie*, for which he was rewarded with the appointment of canon in the cathedral of Bayeux; but, like a true monk, he appears never to have been satisfied with what he possessed. At the end of the poem he states that it was undertaken by command of the king, who, he says, had promised him more than he had performed,

Li reis jadis maint bien me fist,
Mult me duna, plus me pramist.

It might probably have been some consolation to him if he could have foreseen how many poets, possessing more merit than himself, were doomed to be neglected by their sovereigns and to live upon promises.

Richard Plantagenet, surnamed *Cœur de Lion*, fourth of the name who sat on the throne of Normandy, and first of the name that reigned in England, was the thirteenth duke. He did homage for Normandy to Philip Augustus, king of France, at the commencement of his reign. He was also author of several important statutes.

John Plantagenet, surnamed *Sans-terre*, and who ought to have been surnamed the vile and the contemptible, first of the name in Normandy and England, succeeded his brother in all his dominions in 1199; and was the fourteenth and last sovereign duke. He unjustly deprived his nephew Arthur of his possessions in Brittany, and confined him in the castle of Rouën, where, it is supposed, he was put to death, though some have asserted that he was drowned in the ditch, into which he fell as he leaped from the walls when attempting to escape. Complaints having been laid before Philip Augustus, king of France, he was condemned for the murder, and his dominions in France confiscated. They were overrun and taken possession of by Philip in an incredibly short space of time. Thus was the important duchy of Normandy finally lost to the crown of England in the year 1204, and once more incorporated in the French monarchy, from which it had been severed about three centuries.

Edward III. made an attempt to recover it,

and in 1346 landed in Lower Normandy, and destroyed several towns; he then advanced upon Paris, but, being hard pressed by the French monarch, was compelled to retreat to the northern provinces. This useless campaign, fraught with so many dangers and anxieties, was terminated by the brilliant victory of Cressy. Henry V., in 1418, renewed the attempt with more success, and obtained possession of the whole of the duchy, which was formally ceded to England in 1420. But, after having retained possession of it during thirty years, it was lost under Henry VI. in 1449.

After Normandy was reannexed to the crown of France, it gave the title of duke to the undermentioned French princes:—

1332. John of France, afterwards king.

1355. Charles of France, afterwards king, by the title of Charles V., surnamed the Wise.

1464. Charles of France, son of king Charles VII. and brother of Louis XI.

The title of duke of Normandy was also borne by the unfortunate Louis XVII. second son of the still more unfortunate Louis XVI. and Marie Antoinette of Austria, but on the death of his elder brother it became merged in that of dauphin, to which he succeeded.

We may notice in conclusion the singular circumstance of Normandy giving from the rank of her gentry a race of kings to Sicily.

In the reign of duke Robert II. Tancred de Hauteville, a gentleman of Lower Normandy, of small fortune, who had twelve sons to establish in the world, sent ten of them into Italy to seek their fortunes, and advance themselves, like true Normans, by the sword. In consequence of their merit, most of them attained the dignity of chiefs. William, the eldest, surnamed *Brachia di Ferro* or *Iron Arm*; Robert, surnamed *Guiscard* (which signified in the Norman language craft or prudence), the seventh son, and Roger, were the most famous of them. Some years before that period the Normans had acquired great consideration in that country: in 1038 George Maniaces, or Maniaces, was sent by the Greek emperor with a large army, to recover the territory which the eastern empire had lost in Sicily; he was joined by a small body of Norman adventurers, and, chiefly by their aid, defeated the Saracens. Maniaces, by his conduct, disgusted the Normans, but, having been recalled, Doceanos was invested with the command, and he, through his folly and rapacity, entirely alienated their affections. Being now furnished with a pretext, they attacked the imperial dominions in Italy, and Robert and Roger, after a contest of ten years, reduced Sicily, which was ceded to the latter, who assumed the title of great count of Sicily. His reign was glorious, and he displayed great wisdom in the administration of his dominions. He was succeeded by his eldest son Simon, who died soon after, and his second son Roger then mounted the throne. In 1127 he inherited the whole of the dominions of his uncle, Robert Guiscard, and assumed the title of king. He was succeeded by his son William I. in 1154, whose reign was one continued scene of war and trouble: his daughter Constance, having married the emperor Henry VI., carried this rich inheritance to her husband.

Robert overran and conquered Calabria, with which he was invested by pope Nicholas II., as well as all the territories in Italy and Sicily which he could wrest from Saracen or Greek. He assumed the title of duke of Calabria and Apulia; reduced most of the maritime cities in the possession of the Greeks, and finally became possessed of almost the whole tract of country which at this day constitutes the kingdom of Naples. In 1081 he invaded the eastern empire, and afterwards the coasts and islands of Greece, but he was suddenly carried off by an epidemic

disorder, in the island of Cephalonia, in July 1085. He possessed extraordinary talents, both civil and military; was brave and politic; affable to his brother soldiers, courteous to all, and simple in his dress and manners. But he was on the other hand rapacious, though liberal in bestowing the wealth he acquired, and his great ambition caused him to be little scrupulous as to the means with which he compassed his views. Notwithstanding his faults, he occupies, however, and very justly, a conspicuous place in history.

NORRLAND, or **NORDLAND**, a province of Norway, between Drontheim and Finmark, or Norwegian Lapland. It extends from 66° to 70° of N. lat., and has the North Sea on the west, and Swedish Lapland on the east. Its extent, including an adjacent island, is 46,000 square miles. The soil being poor, corn is cultivated but to a small extent, and the breed of cattle is small, but good; butter and cheese are exported. The majority of the inhabitants are fishermen. See **NORWAY**.

NORRLAND, or **NORDLAND**, a mountainous northern division of Sweden, comprising the provinces of Gestrícia, Helsingland, Herjedalen, Medelpad, Jamptland, Angermannland, and West Bothnia. It is generally reported as extending from 60° to 65° of lat., and is bounded by Lapland to the north, Middle Sweden on the south, by Norway on the west, and by the gulf of Bothnia east. A more extensive application of this name includes Swedish Lapland, making the country comprised in it extend to 68° of N. lat., a length in all of 500 miles. By a late re-partition this province is divided into the three governments of Umea, Hernosand, and Gefleborg, the whole containing 90,000 square miles, and 170,000 inhabitants. The mountains form, with those of Norway, the most extensive part of the Scandinavian chain. Some are entirely barren, while others are covered with thick forests of fir: they reach from 2000 to 3000 feet in altitude. The chief rivers are the Indal, Anger, Luleo, Piteo, and Calix, which have courses of from 200 to 300 miles, and often overflow, but are not all navigable. The climate is here very severe, and the corn raised insufficient for the thin population; but a good stock of cattle is kept up, and the butter and cheese, together with the salmon of the lakes and rivers, the skins of the animals killed in the woods, the timber they yield, and the flax, hemp, and linen manufactured, form considerable articles of export. Here are also some productive iron mines, but the difficulty of transport prevents their being wrought to much advantage. There are several towns along the coast; the principal of which is Gefle.

NORRLAND WEST. See **HERNOSAND**.

NORRTELGE, a sea-port of Middle Sweden, on the Baltic, in the province of Upland, containing a manufacture of fire-arms. Its inhabitants, about 1000, are also employed in the fishing and coasting trade. Thirty miles north-east of Stockholm.

NORRISTON, a town of the United States, the capital of Montgomery county, Pennsylvania,

on the north side of the Schuylkill. It contains a court-house and an academy. Seventeen miles north-west of Philadelphia.

NORTE, RIO BRAVO DEL, a considerable river of Mexico, which takes its rise in the Rocky Mountains, near the source of the Arkansas, in lat. 40° N., and long. 107° 35' W. It runs S. S. E. and falls into the Gulf of Mexico, in long. 96° 40' W., lat. 26° N., after a course of 2000 miles. The sand bars in the flat country, and the mountains in the upper part, interrupt its course so that it cannot in any part be considered navigable, except for boats and canoes.

NORTH (Dudley), lord, the fourth baron of that title, was made knight of the bath in 1616, at the creation of Charles prince of Wales; and sat in many parliaments, till excluded by the republican party. From that period lord North lived privately in the country, and towards the end of his life entertained himself with books; he wrote a little tract on economy, called Observations and Advices (Economical, 12mo. His other works are, Passages Relating to the Long Parliament, The History of the Life of Lord Edward North, the first baron of the family, addressed to his eldest son; and a volume of Essays.

NORTH (Francis), lord Guildford, lord keeper of the great seal in the reigns of Charles II. and James II., was a third son of the second Dudley lord North, baron of Kertling; and studied at St. John's College in Cambridge, whence he removed to the Middle Temple. He acquired French, Italian, Spanish, and Dutch; and not only became a good lawyer, but was well versed in history, mathematics, philosophy, and music. He was afterwards made the king's solicitor-general, and was chosen to represent the borough of Lynn in parliament. He succeeded Sir Henneage Finch in the post of attorney-general; and lord chief justice Vaughan in that of lord chief justice of the common pleas. He was afterwards made keeper of the great seal; and in 1683 was created a baron, by the title of lord Guildford. He died at his house at Wroxton in 1685. He wrote a philosophical Essay on Music; a Paper on the Gravitation of Fluids, in the bladders of fishes, &c.

NORTH (Frederick), earl of Guildford, lord North, &c., was born in 1732, and succeeded his father in 1790. His lordship succeeded the celebrated Mr. Charles Townshend as chancellor of the exchequer; and in 1770, on the resignation of the duke of Grafton, was made first lord of the treasury; in which office he continued

until the close of the American war, or rather until the formation of the Rockingham ministry, which began the business of peace with the colonies. He was a man of strong mental faculties, and a powerful orator; but taking the helm at a time when the king's party were unpopular, and when it was supposed that the earl of Bute was the great machine by which the cabinet was moved, he continued in that state of unpopularity until he resigned the seals. During the whole of his premiership he studiously avoided imposing any taxes that should materially affect the lower class of people. As a financier he stood high, even in the opinion of opposition: but he was fatally wedded to the destructive plan of subduing the republican spirit of the Americans. He died on the 5th of August 1792. His recollection he retained to his last moments. Perhaps no man was ever more generally beloved by all who had access to him than the earl of Guildford.

NORTH (George), F. A. S., a learned divine and antiquarian, born in London, in 1707, and educated at St. Paul's school; whence he went to Benet-College, Cambridge, where he became A. M. In 1731 he published *An Answer to a scandalous libel, entitled The Impertinence and Imposture of Modern Antiquaries displayed*. This recommended him to the Society of Antiquaries, who admitted him a member, and he was soon after appointed vicar of Codicote, in Hertfordshire, where he died June 27th, 1772, aged sixty-five. He published *A Table of English Silver Coins from the Conquest to the Commonwealth*, with remarks.

NORTH (John), D. D., the fourth son of the second Dudley lord North, and brother to lord Francis, was born September 4th, 1645. He studied grammar at St. Edmund's Bury, and was admitted of Jesus College, Cambridge, in 1661; where he became conspicuous for his learning in the Greek and Hebrew languages. Having taken his degrees of A. M. and D. D., and been admitted fellow of his college, he took orders, and preached his first public sermon before king Charles II. at Newmarket, which was printed at Cambridge in 1671. In 1672 he was chosen professor of Greek at Cambridge. He was made clerk of the closet to the king, and installed a prebendary at Westminster; and on Dr Barrow's death succeeded him as Master of Trinity College. He died in 1683, aged thirty-eight.

NORTH, <i>n. s. & adj.</i>	} Saxon, <i>norð</i> ; Dan., Swed., Teut., and Fr. <i>nord</i> . The point opposite to the sun in the meri- dian: north-east is the point be- tween the north and east: north-west, between the north and west: northerly is towards the north: northern, in the north: north-star, the polar or lodestar: northward, towards the north: north-wind, the wind blowing from that quarter.
NORTH-EAST,	
NORTHERLY, <i>adj.</i>	
NORTHERN, <i>adj.</i>	
NORTH-STAR, <i>n. s.</i>	
NORTHWARD, or	
NORTHWARDS, <i>adj. & adv.</i>	
NORTH-WEST, <i>n. s. & adj.</i>	} <i>nord</i> . The point opposite to the sun in the meri- dian: north-east is the point be- tween the north and east: north-west, between the north and west: northerly is towards the north: northern, in the north: north-star, the polar or lodestar: northward, towards the north: north-wind, the wind blowing from that quarter.
NORTH-WIND, <i>n. s.</i>	

This shall be your north border from the great sea to Mount Hor. Numbers xxxiv. 7.

The northern wind his wings did broad display
At his command, and reared him up to light.

Faerie Queene.
More unconstant than the wind; who woos
Even now the frozen bosom of the north;
And being angered puffs away from thence,
Turning his face to the dew dropping south.

Shakspeare.
If her breath were as terrible as her terminations,
there were no living near her, she would infect to
the northstar. *Id.*

Mislike me not for my complexion,
The shadowed livery of the burnished sun.
Bring me the fairest creature northward born,
Where Phœbus' fire scarce thaws the icicles,
And prove whose blood is reddest. *Id.*
Proud northern lord, Clifford of Cumberland. *Id.*
Going northward aloof, as long as they had any
doubt of being pursued, at last they crossed the ocean
to Spain. *Bacon.*

John Cabot, a Venetian, the father of Sebastian
Cabot, in behalf of Henry the Seventh of England,
discovered all the north-east coasts hereof, from the
Cape of Florida in the south, to Newfoundland and
Terra di Laborador in the north. *Heylin.*

The clouds wrrre fled,
Driven by a keen northwind. *Milton.*
If we erect a red-hot wire until it cool, and hang
it up with wax and untwisted silk, where the lower
end which cooled next the earth doth rest, that is the
northern point. *Browne.*

The bathing places, that they may remain under
the sun until evening, he exposeth unto the summer
setting, that is north-west. *Id.*

Fierce Boreas issues forth
To' invade the frozen waggon of the north. *Dryden.*

Northward beyond the mountains we will go,
Where rocks lie covered with eternal snow. *Id.*

A close prisoner in a room, twenty foot square,
being at the north side of his chamber, is at liberty
to walk twenty foot southward, not walk twenty foot
northward. *Locke.*

The inferior sea towards the south-east, the
Ionian towards the south, and the Adriatic on the
north-east side, were commanded by three different
nations. *Arbuthnot.*

The northerly and southerly winds, commonly es-
teemed the causes of cold and warm weather, are
really the effects of the cold or warmth of the atmo-
sphere. *Derham.*

When the fierce north-wind, with his fiery forces
Rears up the Baltick to a foaming fury. *Watts*

On every nerve
The deadly winter seizes, shuts up sense,
And o'er his inmost vitals creeping cold,
Lays him along the snows a stiffened corse
Stretched out, and bleaching in the northern blast. *Thomson.*

Ausonia soon received her wondering guest,
And equal wonder in her turn confessed,
To see her fervours rivalled by the pole,
Her lustre beaming from a northern soul. *Young.*

NORTH, CAPE, the most northern point of the
island of Mageroe, and of Europe, on the coast
of Norway. It is not remarkable in any way
except for being the utmost limit of Europe in
this direction, though situated in an island. It
is, however, four degrees to the south of the north
point of Nova Zembla. Long. 25° 0' 45" E.,
lat. 71° 11' 30" N.

NORTH HEMPSTEAD, a post town, the capital of
Queen's county, New York, on Long Island
Sound; nine miles east of Jamaica, and twenty

two east of New York. The township is indented by three large bays, and between two of them, on a headland, called Cow Neck, there is a light-house. Population 2750.

NORTH ISLAND, an island in the Atlantic, at the mouth of the Great Pedee River, near the coast of South Carolina. Long. $79^{\circ} 3' W.$, lat. $33^{\circ} 20' N.$

NORTH MOUNTAIN, a ridge of mountains which extends north-east through Franklin and Cumberland counties, Pennsylvania.

NORTH RIVER, a river of North Carolina, which runs into Albemarle Sound, long. $76^{\circ} 10' W.$, lat. $36^{\circ} 6' N.$ —2. A river of Massachusetts which runs east into the sea, south of Scituate.—3. See HUDSON RIVER.

NORTH RIVER, a branch of Fluvanna River, in Virginia.

NORTH-WEST TERRITORY, a territory of the United States of North America, bounded north by Upper Canada and Lake Superior, east by St. Mary's River and lake Michigan, south by Indiana and Illinois, west and south-west by the Mississippi, which separates it from Louisiana. Long. 84° to $96^{\circ} W.$, lat. $41^{\circ} 45'$ to $49^{\circ} 37' N.$; about 360 miles from north to south, and 450 from east to west; containing about 147,000 square miles.

But few settlements have as yet been made in this country, and the United States have not above 300 troops stationed here. The Menomonies and the Winnebagoes, and parts of some other Indian tribes, inhabit this territory.—The chief rivers are the Mississippi, Ouisconsin, Fox, Mononomie, Chippeway, Coppermine, Rocky, Montreal, St. Croix, and St. Louis.

This country has a considerable variety of soil and surface. There are, on many of the rivers, alluvial bottoms of a rich soil. The uplands south of the parallel of St. Anthony's Falls are generally good, interspersed, however, with tracts of wet land, rocky prairies, and extensive districts of a light sandy soil. The tract of country whence rise the sources of the rivers Mississippi, St. Lawrence, and Red River of lake Winnipeg, is wet and swampy. Between the Ouisconsin and Rocky Rivers are lead mines, which are said to be as extensive as those in the Missouri territory. Copper mines are also found in this territory.

NORTH YARMOUTH, a post town of Cumberland county, Maine, on Casco Bay; twelve miles N. N. E. of Portland, $127^{\circ} N. N. E.$ of Boston. Population 3295. It is a large township, and contains five houses of public worship, three for Congregationalists, one for Baptists, and one for Methodists: an academy; a social library; a paper mill; and has some trade in the fisheries.

NORTHAMPTON, a borough and market-town of England, the county-town of Northamptonshire, is situate on an eminence near the river Nen, or Nine, fifteen miles south-east from Newport-Pagnell, and sixty-five and a half north-west from London, and is a great northern and western thoroughfare. It formerly contained seven churches within the walls, and two without, but almost the whole town was burnt to the ground in 1675, and it now contains only four

parishes. The principal church, All Saints, stands nearly in the centre of the town, at the meeting of four spacious streets. It has a portico of eight Ionic columns, with a statue of king Charles II. on the balustrade, erected in commemoration of his gift of 1000 tons of timber, and seven years chimney-money towards repairing and beautifying the church: the inside is well finished, and it has a good organ and set of chimes. The church of St. Sepulchre, supposed to have been built by the knights templars, from a model of that erected over the holy temple in Jerusalem, is of a circular form, having a cupola in the middle, supported by eight Norman pillars. Here are also places of worship for Baptists, Quakers, Presbyterians, Independents, and Methodists. The streets are regular, and chiefly built of a kind of freestone, and slated. The sessions-house is a handsome building of the Corinthian order. At the east end of the town, near St. Giles's church, is a general infirmary, which has of late years been rebuilt, and much extended. It is 220 feet long, and forty-five broad. The street called the Drapery, though not the longest, is the handsomest in the town. At the east end is the Woodhill, an open square of about 600 feet, around which are neat private houses and handsome shops. It has one of the finest market-places in Europe. The stalls and shambles are temporary. The horse market held here is deemed the finest in the kingdom for saddle and harness horses. Northampton was anciently surrounded by a strong wall, and had a castle, which was held for the parliament in Cromwell's time. The outer walls, at the bottom of Gold Street, are standing. At the north end of the town stood a priory of Cluniacs; in the west suburb an abbey of black canons; and near the south gate a priory of Augustines, besides several other religious houses. The county gaol was finished in 1793, on the principles of Mr. Howard. Here is also a town gaol, an elegant shire-hall, a theatre, and many charitable foundations. Barracks were erected here in 1796. The town has sent two members to parliament since the reign of Edward I. It is governed by a mayor, two bailiffs, four aldermen, twelve magistrates, a recorder, town-clerk, common council, and forty-eight burgesses. The mayor is the returning officer. In 1796 the altered, or, as it is commonly called, new charter, was obtained. According to a provincial newspaper, it was brought from London by the mayor, who was conducted from the bridge through the town 'with great ceremony, amidst the congratulations of the townsmen, on the re-establishment of their ancient privileges, and the security and protection afforded to the poor.' The mayor, recorder, or his deputy, and one justice, are necessary to form a sessions; they have power to try offenders in criminal cases; but they seldom exercise this beyond trying petty larceny. Northampton gives the title of earl to the family of Compton. Within one mile and a half of the town on the London road is one of queen Eleanor's crosses.

The history of this town contains various in-

teresting events. It is decidedly of Saxon origin, and was frequently burnt by the Danes. In 1064 the Northambrians, under earl Morcar, took possession of it, and, in the genuine spirit of warriors, murdered the inhabitants, burnt the houses, 'carried away thousands of cattle and multitudes of prisoners:' in the reign of the Confessor here were sixty burgesses in the king's lordship, and sixty houses: at the time of the conquest fourteen were waste; but at the time of the survey there were forty burgesses in the new borough.

Simon St. Liz, a noble Norman, founded the castle here, 'the town of Northampton, and the whole hundred of Falkely (Fawsley), then valued at £40 a year, being given to him to provide shoes for his horses.' From this period it became considerable, was frequently the seat of parliaments, and on various occasions has been honored with the royal presence. In 1106 the Saxon chronicle states that Robert, duke of Normandy had an interview here with his brother king Henry I., to accommodate the difference then subsisting between them. In his twenty-third year that monarch and his court kept the festival of Easter at Northampton, with all the pomp and state peculiar to that age; and, in the thirty-first year of the same reign, a parliament was held in this town, when the nobles swore fealty to the empress Maud.

In 1138 king Stephen, in order to attach the clergy to his interest, summoned a council to meet him at Northampton, at which all the bishops, abbots, and barons of the realm attended, for the purpose of making promotions in the church. In 1144 Stephen again held his court here.

When the celebrated statutes of Clarendon were established in the 10th of Henry II., and archbishop Becket refused his assent to them, another council of the states was convened at Northampton, before whom the archbishop was summoned to appear, and answer to the charges of contumacy, perjury, &c., which should then be exhibited against him. In the twenty-sixth year of this monarch's reign a convention of the barons and prelates was assembled here to amend, confirm, and enforce the constitutions of Clarendon. By this council the kingdom was divided into six circuits, and justices itinerant were assigned to each; from the formation of this convention, and the advice of the knights and burgesses being required, as well as that of the nobles and prelates, it has been considered as the model by which parliaments have been constituted in succeeding times: the king of Scotland, with the bishops and abbots of that kingdom, attended this council. In the contests between John and his barons it was stoutly defended on the part of the king against Robert Fitzwalter, fanatically styled 'Marshal of the army of God and the holy church,' who, for want of military engines, was obliged to raise the siege. This post was deemed of such importance that, after the charter of liberty was extorted from John, the constable for the time being was sworn (by the twenty-five barons appointed as a committee to enforce its execution) to govern the castle according to their

pleasure: as soon, however, as the perjured prince obtained the ascendancy, he appointed Fulk de Breans, a valiant but base-born Norman, to the command. In the tenth year of his reign, having been displeased with the citizens of London, John commanded the exchequer to be removed to Northampton; and, in his thirteenth year, in a council of nobles convened here, the king met the pope's nuncios, Pandulf and Durand, in order to adjust those differences which had long subsisted between him and the holy see.

Henry III., during his reign, frequently made Northampton his residence, and honored it with particular marks of his favor; and, in the war between that king and the barons, it was alternately besieged and possessed by each of the contending parties. About this time a shortlived university existed in this town, which arose from the following occurrence:—The pope's legate, in 1238, happened to visit the university of Oxford, and took his residence at the neighbouring convent of Osney. He was one day respectfully waited on by the students, who were insolently refused admittance by his porter. At length, after intolerable provocation from the clerk of the kitchen, a Welsh student drew his bow, and shot him dead. The resentment of government, and the fear of punishment, caused the first secession of the students to Northampton and other places. In succeeding years fresh riots arose, and occasioned farther migrations. At length these migrations were made under the royal sanction, who imagined that the disturbances arose from the too great concourse of scholars at one place. It is said that some thousand students settled at this period in this town. Either from resentment of former proceedings against them, or from the usual dislike youth have to governing powers, they took the part of the barons; upon which they formed themselves into companies; had their distinguishing banner, and when Henry III. made his attack on Northampton, proved by far his most vigorous opponents. After the king had made himself master of the place, he determined to hang every student; but, being at length appeased, he permitted them to return to Oxford, under the conduct of Simon Montfort, and abolished the university of Northampton. A similar emigration took place from the university of Cambridge; but was soon superseded.

In the year 1279, on Good Friday, the Jews residing in this town crucified, as we are told, a Christian boy; but he fortunately survived their cruelty; and for this alleged atrocity fifty of them were drawn at horses' tails, and hanged. In the preceding year 300 had been executed for clipping the coin.

Edward I. frequently resided here in great splendor, and on his death a parliament was held once more at Northampton to settle the ceremonial of his burial, and the marriage and coronation of his successor. In the reign of Edward III. several parliaments were likewise held at Northampton, and, in the eleventh year of that monarch's reign, the mayor, bailiffs, and burgesses, obtained the royal license to hold an annual fair for twenty-eight days. In 1460

Henry VI. made Northampton the place of rendezvous of his forces. The strength of his army encouraged his spirited queen to offer battle to his young antagonist, the earl of March, then at the head of a potent army. A conference was demanded by the earl, and rejected by the royal party, who marched out of the town, and encamped in the meadows between it and Hardingstone. The battle was fierce and bloody; but by the treachery of Edmund, lord Grey of Ruthven, who deserted his unhappy master, victory declared in favor of the house of York. Thousands were slain or drowned in the Nen; among them the duke of Buckingham, earl of Shrewsbury, John, viscount Beaumont, and lord Egremont. The duke was interred in the church of the Gray-friars, others of the men of rank in the adjacent abbey of De la Pré; and others in the hospital of St. John in the town.

Northampton was visited by queen Elizabeth in 1563, and by king Charles I. in 1604; it was ravaged by the plague in 1637; and in 1642 it was seized by the parliamentary forces, by whom it was fortified; the south and west bridges being converted into draw bridges, and additional works thrown up in the defenceless places. A foss and bastion of the north-east works yet remain. The markets are on Wednesday, Friday, and Saturday; the latter is the most considerable. Fairs, July 20th, April 15th, May 4th, August 5th and 26th, September 19th, November 28th, and December 19th.

NORTHAMPTON, a post town, the capital of Hampshire, Massachusetts, on the west bank of Connecticut River, opposite Hadley, with which it is connected by a bridge, 1060 feet long; eighteen miles north of Springfield, twenty-one south of Greenfield, forty east of Pittsfield, forty-two north of Hartford, ninety-five west of Boston. Population 2631. The compact part of the town is delightfully situated, and contains a very elegant brick court-house, a stone jail, a very handsome and spacious meeting-house (100 feet by seventy-six), a bank, an insurance office, a valuable cabinet of minerals and natural curiosities, a printing office, from which is issued a weekly newspaper, and seventeen trading stores. A fine rivulet passes near the centre of the town, on which are erected numerous mills and manufactories, among which are a paper-mill, two tanneries, one of which has been accounted inferior to none in the country, and two woollen manufactories, at one of which are finished twenty, and at the other forty-two yards of cloth daily.

Northampton is one of the most pleasant and agreeable towns in the state; many of its houses are elegant; the situation of a number of them is much admired, and the surrounding scenery is romantic and beautiful. In the vicinity of the town are Mount Tom and Mount Holyoke. It is an excellent agricultural town, and has fertile meadows of several thousand acres, which are annually enriched by the spring floods.

NORTHAMPTON, a post town of Montgomery county, New York, eighteen miles north-west of Ballaston-Spa, fifty north-west of Albany.—2. A town of Burlington county, New Jersey; seven miles south-east of Burlington. Population 4171.

NORTHAMPTON, a county on the east side of Pennsylvania, bounded north by Wayne county, east by the Delaware, E. S. E. by Bucks county, south-west by Berks county, and north-west by Lucerne county. It is watered by the Delaware and Lehigh. Population 38,145. Chief town Easton.

NORTHAMPTON, a county on the east side of Virginia, bounded on the north by Accomack county, on the east by the Atlantic, on the south by the entrance into Chesapeake Bay, and on the west by Chesapeake Bay, west 257 miles. Population 7474. Slaves 3350.—Also a county in the north part of North Carolina. Population 13,087. Slaves, 7258.

NORTHAMPTONSHIRE. The inhabitants of this county in the time of the Romans were a part of the Coritani. During the time of the Saxon Heptarchy Northamptonshire belonged to the kingdom of Mercia. It takes its name from Northampton; so called in contradistinction to Southampton. This is an inland county, situated between 52° and 53° N. lat., and between the meridian of London and 1° 20' W. long. It is bounded on the north by Leicestershire, Rutlandshire, and Lincolnshire; on the east by Cambridgeshire, Huntingdonshire, and Bedfordshire; on the south by Buckinghamshire and Oxfordshire; and on the west by Warwickshire. The form is oblong; and its greatest length from the south-west at Aynho (not far from Brackley) to the north-east part of Peterborough Fen is sixty-five or sixty-six miles in a straight line; and the breadth across the county from the east of Yardley Chase to the entrance of Leicestershire, near Welford, about twenty-four miles. It is divided into twenty hundreds, 316 parishes, one city, and eleven market towns. It is included in the midland circuit, in the diocese of Peterborough and province of Canterbury.

The climate of this county is esteemed equal to any in the kingdom; to which has been ascribed the large number of seats of the nobility and gentry found in it. The soil is fruitful both in tillage and pasturage. A large portion of this county is upon a calcareous or limestone substratum, in many places pure enough for burning into lime; in others much incrustated and intermixed with argillaceous and other extraneous matter; and often abounding in a great variety of marine substances. The soil of the natural meadows, and of the fen land north of Peterborough, is a dark colored sediment, often very rich and productive, but in many places much injured by stagnant water, also liable to damage by floods in the grass seasons. But the greatest proportion of the land of this county is of a strong heavy staple, applied to the culture of beans and wheat before enclosure; and when enclosed generally laid down in permanent pasture. Of the surface of this county Mr. Pitt observes, that the general aspect comprehends great beauty and variety, there being very few instances of dead extensive flats. The greater part is agreeably varied by waving hills and gradual declivities, with intervening vales, and rivulets murmuring down towards the rivers, forming an interesting scene of vale and upland

and presenting to the agriculturalist not an inch of impracticable land, but what is or may be rendered useful; the hedges and trees growing with luxuriance.

The county is well watered by its brooks and rivers, interspersed with woods and seats. According to the above writer, five rivers take their rise in this county; the Nen or Nine, Welland, Ouse, Leam, and Charwell; and what is very remarkable, considering the different courses which they take, the sources of the former and of the two latter are said to spring out of one hill, near Catesby and Hellidon, in the hundred of Fawsley. The Charwell, after running for several miles along the western boundary of this county, enters Oxfordshire and joins the Thames at the city of Oxford. The Leam joins the Lesser Avon near Warwick, and afterwards the Severn, falling into the western Ocean. The Nen is the most considerable of these rivers: after taking its rise as above mentioned it is quickly joined by a number of other small streams and brooks in the vicinity of Daventry, and continues its course from thence to Northampton, where it becomes navigable, and forms a considerable river; extending its course along the east side of the county, it passes Wellingborough, Thrapston, Oundle, and Peterborough, and from thence, by the cut called Morton's Leam, to Wisbeach, below which it discharges itself into the German Ocean. The Ouse, which is one of the principal rivers in the kingdom, takes its rise from a spring called Ouse Well, near Brackley in the hundred of Sutton. It quickly leaves the county; and, after taking a circuitous course through part of Buckinghamshire, touches again upon it at Stony Stratford; whence it passes to Newport Pagnell and to Bedford; from which last place it is navigable to the sea at Lynn. Inland navigation has not been much attended to here. The Oxford Canal passes through the parishes of Aynho, Boddington, Braunston, and Barby, all on the western verge of Northamptonshire. At Braunston it joins the Grand Junction, which crosses the western side of this county. The Union Canal commences at, and joins the river Soar navigation, on the west side of Leicester; and for nearly three miles, that is, to Ayleston, runs with a few deviations in the course of that river; from Ayleston, running a southerly course, it passes Glen Parva, Wigston, Newton Harcourt, Wistow, and Saddington, where is a tunnel of forty chains; from this tunnel, making an elbow, it passes Foxton, where is another tunnel of forty-eight chains, passing which is the branch to Market Harborough.

The Leicestershire and Northampton canal was intended to pass by East Farndon and Oxendon Magna, through a small tunnel of thirteen chains at the latter place; and thence to a short distance from Kelmash, through another tunnel of forty-five chains, passing by Maidwell, Lamport, Hanging Houghton, Brixworth; and, parallel with that branch of the river Nen called the Northern River, and so to Spratton, Pisford, Chapel, Brampton, Kingsthorp, Dallington; and on the west side of Northampton to join the river Nen navigation, and the branch of the Grand Junction Canal; completing a course of

forty-three miles and three quarters, from Leicester to Northampton. The vegetable produce of this county has no peculiar character. The mineral productions may be classed as follow: 1. common clay, brick clay (argill communis); 2. lime stone (calx lapis) in great plenty almost all over the county; 3. marl (marga friabilis); 4. free-stone for building; and, 5, slate, schistus.

Within the county are several large crown forests and two chaces, over which the king has particular rights. 1. The largest is the forest of Rockingham, in the northern part of the county; extending over 11,000 acres. Here the land belongs in many instances to individuals; but the royal deer have the range of the whole. 2. Whittlewood Forest contains about 5000 acres; and is stocked with about 1000 deer; a proportion of which, according to ancient prescription, are killed annually for the royal household and the great officers of the government. The timber here is reserved for the use of the navy; but, from the reports of the commissioners, appears to have been very negligently preserved. 3. Salcey Forest, about 1850 acres, is a tract formerly covered with most valuable timber, but it has lately furnished but a very small proportion. The crown enjoys only the right of pasture and timber trees in these districts, and the mixture of opposite interests diminishes the productiveness of the property to all the parties. The underwood does not belong to the crown, nor the entire pasturage. The individuals who own it cut the former down every twenty-one years, and during the following nine years it is enclosed; for the remaining twelve it is said to be open for the deer to feed on. The rangership of these forests is hereditary in the dukes of Grafton.

Of Roman antiquities here are the Watling and Ermine Street Roads, the Arbury boroughs, and Rainsbury camps; and tessellated pavements at Cotterstock, at Stanwick, and in Woodford Field. There were more than sixty monasteries and other religious houses in this county at the period of the Reformation; whose traces may now be seen.

This county sends eight members to parliament: viz. 4 for the shire; 2 for the county-town of Northampton; 2 for the city of Peterborough; Brackley and Higham Ferrars were disfranchised in 1832. It has had the honor of giving birth to the following distinguished characters:—Vincent Alsop, nonconformist minister. Died 1703.—Dr. Caleb Ashworth, a dissenting minister. Born 1709. Died 1774.—Lewis Aterbury, a divine. Born at Milton, 1631. Died 1693.—Edward Bernard, astronomer and critic. Born 1638. Died 1718.—Thomas Britton, the well-known musical small-coal man. Died 1714.—Esther Chappone, an elegant poet and moral writer. Born 1726. Died 1801.—Henry Chichely, archbishop, founder of All Souls College, Oxford. Died 1443.—The celebrated poet John Dryden. Born 1631. Died 1700.—John Fletcher. Born 1576. Died 1625.—Samuel Foster. Born 1600. Died 1652.—John Friend. Born 1675. Died 1728.—Thomas Fuller. Born 1608. Died 1661.—Francis Gastrel. Born 1662. Died 1725.—Dr. John Gill. Born 1697. Died 1771.—Dr.

Francis Godwin. Born 1561. Died 1633.—James Harrington. Born 1611. Died 1677.—James Hervey. Born 1714. Died 1758.—Sir John Hill. Born 1716. Died 1775.—Dr. William Paley. Born 1743. Died 1805.—Thomas Randolph. Born 1605. Died 1634.—Daniel Whitby. Born 1638. Died 1725-6.—Leonard Welsted. Born 1689. Died 1749.—Dr. John Wilkins. Born 1614. Died 1672.—Sir Ralph Winwood. Born 1565. Died 1617.

The manufactures are shoes, lace (principally at Northampton and Wellingborough), and woollen stuffs, particularly tammies and calimancoes; horse-whips are also made in considerable quantities at Daventry.

NORTHERN LIGHTS, the same with AURORA BOREALIS, which see.

NORTHUMBERLAND. The Saxons denominated this district Northan-Humber-land, evidently from its situation north of the Humber. It was anciently far more extensive than at present, including Yorkshire, Durham, Lancashire, Westmoreland, and Cumberland; and formed a distinct kingdom during the Heptarchy. Anterior to the Roman invasion it was inhabited by the Ostadini. After the Romans had taken possession of the island it was included in the province of *Maxima Cæsariensis*.

Northumberland is situated between 54° 51' and 55° 48' N., and 2° 27' W., from London. It is bounded on the east by the German Ocean, on the west by Roxboroughshire and Cumberland, on the north by Berwickshire, and on the south by Durham. Its form approaches to an irregular triangle, and its length from north to south is sixty-four miles, and breadth forty-eight miles, containing 1980 square miles, or a circumference of 225 miles. It is divided into six wards; three of which are situated in the western part of the county, and include the whole of the mountainous district, with a considerable portion of enclosed cultivated country: the other three adjoin the sea coast. Northhamshire and Islandshire are situated at the northern extremity of the county. Bedlingtonshire is situated at the south-east corner of Castle-ward, bounded on the east by the German Ocean, on the north and south by the rivers Wansbeck and Blyth, and contains about thirty square miles. This county is included in the northern circuit, in the province of York, and in the diocese of Durham. In the six wards there are three boroughs and nine market-towns. Of the 1,267,200 acres it is said to contain, about two-thirds are said to be capable of cultivation. The rental in 1809 was £916,587.

The climate is said to be, in regard to temperature, subject to great variation. Upon the mountains snow will often continue for several months (may frequently be seen there of a considerable depth) when there is none in the lower districts. The weather is very inconstant, but mostly runs in extremes. In the spring months the cold, piercing, easterly winds are most prevalent. Rain is of very little use while these winds continue, from the great cold which always attends them. The mild western and southern breezes rarely take place before June; they are certain harbingers of rain and vigorous vegetation, and are the most prevailing winds through the sum-

mer and autumn. In the latter season they often blow with tempestuous fury, and are particularly injurious to the corn. The greatest falls of snow or rain are from the south or south-east; and, whenever there is a very high west wind, it is a certain sign that a great quantity of rain is falling to the westward, in Cumberland and Roxboroughshire.

The soil and surface are described as consisting of a strong, fertile, clayey loam, which occupies the level part of the country along the coast, and reaches as far up in general as the great post-road. Sandy, gravelly, and dry loam, or what in this county is generally called turnip-soil, on the banks of the Tyne, from Newburn to Haltwhistle, on the Coquet, about and above Rothbury, on the Aln, from its mouth to Alnwick, and down Tweed-side; but the greatest quantity of this kind of soil is found in the Vales of Bresmish, Till, and Beaumont. The hills surrounding the Cheviot mountains are mostly a dry, sharp-pointed, gravelly loam. Moist loams, on a wet, cold, clayey bottom, occupy a large portion of this county. This soil prevails most in the middle and south-east parts of the county. Black peat earth is the prevailing soil in most of the mountainous districts, and is found in many places through the lower parts of the county. The surface of Northumberland is marked with great variety. Along the sea-coast it is nearly level; towards the middle the surface is more diversified, and thrown into large swelling ridges, formed by the principal rivers. The western part, except a few intervening vales, is an extensive scene of open mountainous district. Of the mountainous districts those around Cheviot are the most valuable, being in general fine green hills, thrown into a numberless variety of forms, enclosing and sheltering many deep, narrow, sequestered glens. They extend from the head of Coquet Down to Allenton, thence northward to Prendwick, Branton, Ildeston, Wooler, Kirknewton, and Mindrin, and occupy at least an area of 90,000 acres. The other mountainous districts lie chiefly on the western part of the county, some of which adjoin the county of Durham; but the largest portion extends from the Roman Wall to the river Coquet (with a few intervening vales), and to the moors north of Rothbury. They are not marked by any striking irregularities of surface, being in general extensive, open, solitary wastes, growing little else but heath. The whole county is regarded as a superior school of agriculture, and gentlemen's sons are frequently sent hither to be instructed in farming. Almost all the branches of rural economy, for one or more of which other districts are celebrated, being often to be found here combined, and conducted upon the same farms. The Leicester sheep, for instance, and the short-horned cattle of Durham and Yorkshire, are both in great perfection; and the turnips of Norfolk are cultivated upon the drill system of Scotland; while a regular alternation of tillage and grazing is followed; and every scientific improvement in farming regularly investigated and adopted. At Chillingham, near Belford, is said to be the only herd of wild cattle remaining in this country.

The principal rivers are the Tyne, the Blyth,

the Wansbeck, the Coquet, the Aln, and the Tweed. The innumerable streams which lose their names in the above spread in every direction through the county. The Tyne branches into nearly two equal streams a little above Hexham, which are distinguished by the names of North Tyne and South Tyne. The main branch of North Tyne is the Reed, and of South Tyne the Aln. The principal streams which empty themselves into the Tyne, east of Hexham, are the Devil's Water and the Derwent; and the river Till is the only stream of any note which empties itself into the Tweed in this county. The South Tyne rises between Cross-Fell. The North Tyne commences on the borders of Scotland, and receives the Reed below Bellingham. The Tweed rises in Tweedale in Scotland, at a place called Tweed's Cross. The Aln rises in the hills west of 'Alnham Towne.' The Coquet rises among the Cheviot Hills; and near Allenton church it is joined by the Allen, which issues out of Kidland. The Wans rises near Sweethope, above Kirkwhelpington. At Mitford it meets the Fort, and passing through the fine meadows of the valley of Newminster, and the old woods of Bothal, it enters the sea at Cambois. Akenside, says Mr. Hodgson, wrote the first copy of his Pleasures of Imagination at Morpeth; and in the edition of that poem, in 1770, compliments this river with the following apostrophe:—

O ye Northumbrian shades, which overlook
The rocky pavement and the mossy falls
Of solitary *Wans-beck*, limpid stream;
How gladly I recall your well-known seats,
Beloved of old, and that delightful time
When all alone, for many a summer's day,
I wandered through your calm recesses, led
In silence by some powerful hand unseen.

Northumberland, if not wholly destitute, is extremely barren of the conveniences of inland navigation by means of canals; yet the mineral productions of this county are very valuable. In the mountains on the south-west, lead ore, and the ore of zinc, abound, particularly towards Allendale. Iron ore is found in many parts; stone marl near Tweedside, shell marl in Glendale Ward, and sandstone and freestone are found in almost every quarter. Excellent grindstones are exported: but coal may be said to be the staple of the county. It is found through the greatest part of it in very large quantities, particularly in the lower district. Mr. Hodgson says that in eight years (from January 1, 1802, to December 30, 1809) it appeared that 4,713,476 Newcastle chaldrons, or 12,490,707 tons of coals were exported from the Tyne, and probably as much more has been sent from Sunderland and consumed in Northumberland and Durham, the same coal field extending across the Tyne. This is all of the kind called 'caking coal,' of the best quality, which melts and runs together in the fire. Of the coal at Bamborough, Islandshire, and Glendale Ward, the seams are in general thin, and the quality inferior. It is chiefly used for home consumption, and for burning limestone. Calculations, or rather conjectures, have been made as to the extent of the coal tract, and the period of its probable exhaustion; but there is a great difference of opinion on this last point,

some estimating that the supplies must cease in 500 years, some not in less than 1000, and some holding that it is inexhaustible.

Northumberland returns 9 members: for the county 4, Newcastle-upon-Tyne 2, Berwick-on-Tweed 2, and Tyne-mouth 1.

The following eminent characters owed their birth to this county:—Mark Akenside, poet and physician. Born at Newcastle-upon-Tyne, 1721. Died 1770.—Lord Collingwood, naval commander. Born at Newcastle. Died 1805.—Mary Astell, theological writer. Born at Newcastle, 1668. Died 1731.—John Bate, an eminent Greek scholar and author. Died 1429.—Rev. John Brand, an eminent antiquary, author of the History of his native town; also of that curious work entitled Antiquitates Vulgares, &c. Died 1806.—William Elstob, an eminent and learned divine. Born in Newcastle, 1673. Died 1714.—John Horsley, a learned antiquary. Died 1731.—Joseph Richardson, a lawyer and poet. Born at Hexham, 1774. Died 1803.—John Rushworth, author of Historical Collections. Born about 1607. Died 1690.—Rev. George Walker, F.R.S. a political, theological, and mathematical writer of distinguished merit. Born about 1735. Died 1807.

The commerce of this county is derived principally from the coal trade. Berwick exports corn, flour, oatmeal, shelled barley, potatoes, fish, eggs, wool, &c. There is no staple manufacture. The chief are those connected with the coal trade and mines, as ship-building, roperies, forges, foundries, coppers, coal tar, soda or marine alkali, white lead, potteries, glass-works, &c. Hexham has a large glove manufactory, and there is some cotton.

NORTHUMBERLAND, a post-town of Saratoga county, New York, on the Hudson; eleven miles north-east of Ballston Spa, forty-four north of Albany. Population 2041.

NORTHUMBERLAND, a county in the central part of Pennsylvania, bounded north by Lycoming county, east by Luzerne county, south by Berks, Dauphine, and Mifflin counties, and west by Centre county. It is watered by both branches of the Susquehanna. Population 36,327. Chief town Sunbury. 2. A county of Virginia, west of Chesapeake Bay.

NORTH-WEST PASSAGE, a supposed passage to the Pacific Ocean through Hudson's Bay or Davis's Straits, the discovery of which has been frequently attempted without success; but toward which some considerable advances have of late been made. See POLAR SEAS.

NORTHWICH, or NORTHWICK, a small town of Cheshire, long celebrated for its rock-salt and brine pits. The stratum of salt lies about forty yards deep; and some of them are hollowed into the form of a temple. The descent is through a dome, the roof supported by rows of pillars about two yards thick, and several in height: and, when illuminated with a sufficient number of candles, they makes a most magnificent appearance. Above the salt is a bed of whitish clay (argilla cærulea-cinerea), used in making the Liverpool earthenware; and in the same place is also dug a good deal of gypsum, or plaster-stone. The fossil salt is generally yellow, and semipellucid, sometimes debased

with dull greenish earth; and is often found, but in small quantities, quite clear and colorless. The town is situated near the Dane, and is tolerably handsome: it has a market on Friday. It is ten miles north-east of Chester, and 174 north-west of London.

NORWALK, a post-town of Fairfield county, Connecticut, near the mouth of a small river of the same name, on Long Island Sound; it is thirty-one miles W. S. W. of Newhaven, forty-five north-east of New York. Population 2983. It is a pleasant town, and has an academy, iron works, and some trade to New York and the West Indies.

NORWALK ISLANDS, a cluster of small islands in Long Island Sound, near the coast of Connecticut. Long. $72^{\circ} 22' W.$, lat. $41^{\circ} 4' N.$

NORWAY (Dan. Norge; Swed. Norrige, or country of the North), is an extensive maritime kingdom of Europe, at present united to Sweden; having been transferred to that power from Denmark by the interference of the allied powers in 1815.

From its southern extremity, Cape Lindesnes, or Linie Cape, called by English sailors the Naze, to the North Cape, its northern extremity, it extends through upwards of 13° of lat.; the former being in lat. $57^{\circ} 58' 48''$, and the latter in $71^{\circ} 11' 30''$. The broadest part is in the south, from lat. 58° to near lat. 63° , and forming an oblong of nearly 350 miles by 250; northward of this, all the way to the high latitude of the North Cape, the Norwegian territory is a long narrow tract, having the Northern Ocean on the west, and Swedish Lapland on the east.

All along the lengthened west coast of Norway the eye rests on a vast chain of mountains, in the variety of whose shapes nature seems to have exhausted all her forms. Many of them are vast insulated masses of rock lining the coast, whose summits may be seen twenty leagues, and serve as landmarks to the seamen. The vars or low islands are preferred by the sea mews (gulls), whose eggs form a valuable part of the provisions of the Norwegians, and hence the possession of an egg-var is considered of as much consequence as a field of wheat in more fertile countries. The puffins prefer the elevated and solitary rocky islands.

The fundamental formation of all these islands and mountains is gneiss regularly stratified and dipping considerably to the east. This regularity seems to authorise the supposition of their having received their present formation by some grand and sudden perpendicular convulsion, which either projected these vast masses upwards, or sunk the intermediate grounds which occupied the spaces now forming sounds and fiords. In some new spots near the coast are found tracts of morass, under whose present surface is a stratum of sand, broken sea-shells, and marine plants, thirty feet above the present level of the sea, by which it is probable these lands were covered posterior to the grand formation of the mountains and islands. Some of the mountains have glaciers, from which great masses occasionally break off; and in their descent, dislodging vast blocks of rock, carry desolation into the valleys. In 1756 one of these masses precipitated itself

into the Langefiord, which is twelve miles long and two broad, and sixty fathoms deep, the effect of which was so great that the waters of the fiord rose suddenly and swept away houses 200 paces from the shore.

The islands even towards the south of Norway are entirely bare of trees, from the influence of the sea air. Towards the north on the main land, beyond 65° , fruit trees are no longer found, and berry-bearing bushes are alone met with; and 67° is the limit of the Norwegian spruce fir, beyond which the only trees are the Scotch fir and birch. It is also observed that the western fiord in 65° is the northern limit of oysters. Within these islands the main is deeply penetrated by inlets named fiords, some of which run fifteen to twenty leagues into the land, and have depths of 300 to 400 fathoms, ten leagues from their entrance. In these fiords ships find shelter from all winds; and towards the south, where there is a constant internal navigation to and from Bergen, when the depth in the fiord is too great for anchorage, iron rings are fixed into the rocks two fathoms above water for the vessels to make fast to. Even at the northern extremity of Finmark these fiords never freeze, which is doubtless owing to the constant motion of the waters by the strong currents. One of these which sets out of the Baltic, uniting with that of the British Sea, strikes against the south coast of Norway, and runs round Cape Lindesnes, and along the coast to the north, even to the North Cape. This current is extremely strong among the islands, flowing through the channels with the velocity of the most rapid river, and, when it meets the ebb tide in long and narrow inlets, the opposite forces produce a perfect cataract, or whirlpool, of which the Maelström, on the coast of Nordland, is the most celebrated, its vortex carrying down and dashing to pieces against the bottom whatever comes within its influence. It is most furious when strong north-west winds blow during the ebb tide, and then its noise equals that of the greatest cataracts. In summer, when these winds are infrequent and moderate, the Maelström is little dreaded, and at every turn of the tide it is tranquil for about half an hour, and may be crossed without danger in a boat. The Saltenström, at the entrance of Salten fiord, is a similar whirlpool, and is even considered by the natives more dangerous than the Maelström.

The vicinity of the mountains to the sea prevents the rivers here from having any length of course. The most considerable on the west coast of Norway are the Namsen, which falls into the Namsen fiord in about $64^{\circ} 30'$, and by which quantities of fir timber are brought down for exportation. The Guul and the Orkedal are next in consequence, and both fall into the long fiord of Drontheim.

The most remarkable islands and mountains regarding the coast from north to south are, the northern Fuglø or rock Huygens of the English, a solitary rock distant from any other island, and rising abruptly to the height of 2000 feet. Arenæ and Vanæ are still more elevated, the two peaks of the latter exceeding 3000 feet. Ringvadse is a large and lofty island. The Storhorn, south of

Tromsø, rises frightfully steep and rocky, surpassing in terrible grandeur every thing that surrounds it. Senjen, a large island, separated from the main by Grysound, shoots up on its north side to Alpine peaks. Faxfeldt, on the main, is an enormous isolated mountain, and one of the highest beyond the polar circle, rising almost perpendicular from the base to the summit, which has upwards of 4000 feet elevation.

The Loffodden islands are a long mountainous chain, separated from the main by the great sound named West Fiord, celebrated for its grand cod-fishery. Except the West Fiord, there is scarcely any point of the coast of Norway, it is said, which the cod have not deserted at different times. This gulf has on the contrary retained its celebrity uninterrupted since the reign of Harold Haarfager, in the ninth century; an advantage probably owing to its repose, whence the fish, who at spawning time require tranquillity, prefer it at this time, when alone they visit it. They collect in millions on two or three banks, between January and March, and the fishing season is over by April, the fish then returning to the ocean. Formerly the Nordlanders used lines only on this fishery, but of late years nets have become general. Hindø is the largest of this chain, and Vaagø is the central rendezvous of the fishing-boats. Stegen rises in three enormous peaks, 2000 feet high, and united by a natural wall of rock. The southern Fuglø and Landegode tower above their neighbours like two gigantic teeth, and down the sides of Fuglø two cataracts are precipitated from a height of 1000 feet. Nearly opposite these, on the main, is the Kunnen, a vast projecting mass of mountain, ascending almost perpendicularly from the sea to the height of 1000 feet, and, except in a very few spots, without even a footpath at the base. It increases its elevation as it goes inland, until at the distance of four miles from the sea, its greatest height is 4000 feet. From one of its cliffs a glacier descends to an immediate contact with the sea.

A few miles beyond the polar circle Rodø presents its high rocks like a vast Gothic ruin rising from a green surface, and is a very striking object. Trance, cut by the polar circle, has four enormous peaks. Lovunnen, one of the outer islands, is a singular solitary rocky cliff, the resort of innumerable puffins, which are taken for their feathers. Dunnø rises in two naked horns; Vegge has also two singularly abrupt tops 2000 feet high, and Alsten has seven peaks, called the Seven Sisters, elevated far above the line of perpetual snow, their height being more than 4000 feet. Torgehøtten is a vast insular pyramid 2000 feet high, and Oyskavalenfeldt, on the main, rises to 3200 feet.

The first place worthy of notice on this coast, after passing the North Cape, is Hammerfest on Qualø or Hvalø (whale) Island, one of the three places of the north erected into towns in 1787. Its progress, however, has been slow: it contained, in 1815, but nine houses and forty inhabitants; and though it enjoyed the privilege of exporting the produce of the fishery direct to foreign ports, it had not yet taken advantage of it. Alten, at the mouth of the river of the same

name, is a neat village of twenty houses, amongst green fields and lofty firs. The river has a good salmon fishery, which commences at midsummer. Tromsø, on a small island, erected into a town in 1787, is more considerable than Hammerfest; but, like it, it has not hitherto taken advantage of its privileges. Hundholm, though without these privileges, has the prospect of surpassing it, from its more southerly situation, and the greater facility of its harbour. Narvøen, on a dreary island, has only a few storehouses to receive the merchandises brought to an annual fair in July. Vardelsøen is celebrated for its gloves. Levanger resembles a small town, fifty families having settled here in consequence of an annual fair in March; and Stordalshalsen has a considerable, and almost the only manufacture of earthenware in Norway.

Drontheim, the third city of Norway, is at the mouth of the river Nid, and has a handsome appearance, though the buildings, both public and private, are generally of wood. Its cathedral, founded by St. Oluff, was of marble, and exceeded in size, as well as in magnificence, every thing of the kind in the North. Besides fir timber, Drontheim exports the copper of the mines of Røerås. Its trade employs about 500 vessels annually.

Christiansund is a small town in 63° 10', as is Molde farther south; both export the produce of the fishery.

Bergen, which long was the capital of Norway, and still claims that honor, is situated semicircularly on the shore of a small valley, overtopped towards the land by high mountains, and well fortified towards the sea. It is well-built, all the public buildings and many of the dwelling houses being of stone. Bergen is the grand depot of all the produce of the fisheries of Finmark and of the Nordlands; 126 Nordland yachts, each manned with ten or twelve men, being seen at one time in its port.

Stavanger exports fish and some timber, and contains about 2500 inhabitants.

The south coast of Norway commences at the Lindesnes or Naze. It is the extremity of a rocky peninsula, joined to the main by a narrow isthmus. Its projection into the sea exposes it to the continual fury of the waves, which cover it with a salt vapor, that prevents any other vegetation than some creeping plants thinly scattered among the crevices of the rocks. This frightful solitude is, nevertheless, inhabited by fishermen and pilots, who derive from the sea the means of procuring the comforts of life, and are remarkable for their vigor and longevity. On the Cape are two lighthouses, which can be no where more necessary, as it is surrounded by rocks, of which those named the Bishop and Clerks, five miles south of the point, are the most to be dreaded. From the Naze to the east the shore continues to present a rampart of elevated barren and dreary rocks. Its rivers are, in general, impeded by cataracts; the most considerable is the Glommem, the largest river of Norway, which issues from a small lake in the Alpine ridge of Dovrefieldt, and after a course of 100 leagues falls into the gulf of Swinesund. In many parts it is from 100 to 500 yards wide: it

waters are beautifully clear, and it has several falls, of which that called Sarpen, near its mouth, is the most considerable, being sixty feet perpendicular. The Laugen, the Louen, the Drammen, the Mandal, and the Nid, also empty themselves into the Scagerack and Categat. None of them are navigable, and they are all subject to inundations, but they turn many mills and fertilise the country.

Proceeding to the east from the Naze, at the distance of five miles, we meet with Mandal at the mouth of the river, which exports a considerable quantity of salted and smoked salmon, esteemed the best of Norway. Three leagues farther is Christiansand, the fourth town of Norway. It is well built, and has a good road, besides a convenient place for ships to winter in in the mouth of the River Torvedal, a little to the east of the town. In 1799 it exported 150 cargoes, or above 7000 lasts of timber, besides salt fish and iron. The receipts of the sea custom-house amount to 14,000 rix dollars per annum. To Christiansand succeed Fleckerø Island, the sound between which and the main forms the most capacious and secure harbour of Norway; Arendal, built in a marshy situation, on piles, and intersected by canals; Risoer, Kragerø, and Skeen, a small thriving town.

Stavørn or Fredericks-værn is a small town, protected by a fortress on an island; its port is capable of receiving large ships, and it has a building-place for gun-vessels.

Laurwig, containing 3000 inhabitants, is finely situated on the river Louen: it exports a great deal of iron from the foundries in its neighbourhood. Some leagues east of Laurwig is the Gulf of Christiania, which penetrates twenty leagues, and has several branches, some spreading into lakes and bays, while others resemble winding rivers, or artificial canals, cut through rocky defiles. The shores present a picturesque variety of rocks, wooded eminences, valleys, meadows, &c. The entrance of the gulf is pointed out by Faerdar Island, on which is a light.

Christiania, at the head of the gulf, twenty leagues from the sea, is the capital of Norway, the residence of the viceroy, and the metropolitan see. It is situated on a fine bay, in a fertile and well cultivated country, and is divided into three parts. 1. The city proper, which was founded in 1624, by Christian IV., when Apslø the ancient capital was consumed by fire, and it has three suburbs; 2. The fortress of Aggershuus; and, 3. The ancient city of Apslø, or Anslø, in which is the episcopal palace. The city is well built; the streets being at right angles, each forty feet wide. The castle of Aggershuus is built on an eminence to the west of the city; it is an ancient work, having been besieged by the Swedes in 1310; but its fortifications have been successively augmented, and it has accommodation for a garrison of 1000 men. The port of Christiania is fit for the largest vessels, having thirty to forty feet depth close to the quay. The channels up the gulf, though they require a pilot, are not difficult or dangerous. The exports are very considerable in fir planks and rafters, pitch, tar, soap, iron, copper, and alum.

In 1799 it exported 179 cargoes, or 15,396 lasts of timber, valued at £82,500; iron for £12,000; alum for £2750; and copper for £1000. It has 136 saw-mills, which cut 20,000,000 of planks annually, each twelve feet long, and two inches and a half thick. Its manufactures are glass and coarse woollens, and linens; and it builds a considerable number of merchant-vessels for sale. On the Gulf of Christiania are several little towns or villages, where vessels load timber; such are on the west shore Tønsberg, Holmstrand, the three towns of Tangen, Stromsøe and Bregneæs, situated on the river Dram, whence they have received the general name of Drammen. On the east shore of the gulf is Frederickstad, at the mouth of the Glommen, a small, but the most regular fortress of Norway. Its ramparts have a circuit of three-quarters of a mile, and it contains 1500 inhabitants. Near Frederickstad is the fortress of Kongsteiu, on a very elevated rock, with a garrison of thirty men. Moss, above Frederickstad, is finely situated; it has 1200 inhabitants, and exports large quantities of iron from its extensive foundries. Above Moss, on the same side of the gulf, is Drobak.

East of the gulf of Christiania is a deep inlet, named Swinesund, separating Norway and Sweden. It commences by an outer basin, communicating with an internal one by a strait, in some part so narrow that ships' yard-arms almost touch the high rocky shores. On this inlet, and at the mouth of the Tistendal, is Frederickshall, where Charles XII. lost his life. The falls in the river render it unnavigable, but its mouth forms a small port, where gun-vessels are built. The town enjoys the privilege of depot, no duty being paid on transit merchandise. Its proper commerce consists chiefly in the export of planks, which are sawed by thirty-six mills on the river.

Nature has filled all the numerous gulfs and bays of the Norwegian seas with abundance of fish; but these do not seem to content the inhabitants, who (see our article *KRAKEN*) deal in wonderful tales respecting sea-monsters, serpents, mermaids, &c. Abstracting what is exaggerated from these accounts, as captain Tuckey has justly observed, we should most probably find the kraken an overgrown whale; the sea-snake an enormous polypus: and the mermaid some variety of the seal tribe.

The generally rocky and unproductive soil, and the severity of the climate of Norway, allow it but few resources in *agriculture*; but this want is in some measure compensated by its mines of iron and copper, among the richest of Europe, and by its pine forests which afford timber, masts, pitch, tar, and potash, while a still more inexhaustible source of wealth is found in its fisheries. The exports of these objects, and of some tallow, butter, horses, horned cattle, silver, of its mines, Prussian blue, &c., more than compensate the imports, of which corn is the most considerable and most indispensable, and which it receives from Denmark, Prussia, Courland, and Livonia.

The great cod, herring, mackarel, halibut, and arctic shark, are the chief objects of export, as fish. The great cod fishery is carried on along

the coast, from Skudenaes to the North Cape, but particularly in the west fiord, within the Loffodden Islands, where it employs between 3000 and 4000 boats, beside 300 Norway yachts and large vessels, and 20,000 persons. The grand rendezvous is at Vaagøe, in February; the produce is estimated at 16,000,000 of fish, worth 600,000 dollars, though the fishermen are generally peasants, and ignorant of the best manner of fishing, as well as deficient in capital, to elevate this branch of national industry to the height it is susceptible of. The fishery commences in February and ends in April. The fish is prepared in various manners; that called flak fish is dried on poles in the open air, after cutting off the head and splitting it down the back. The round or stock fish is also dried in the air, but is not split. The klip fish is the species of cod called torsk, salted and afterwards dried on the rocks. Wet fish is the salted cod of our markets packed in barrels. The livers of the cod afford a good oil; 400 livers giving a tun of oil, and 200 fish a ton of roes, which are salted.

The herring fishery of the Nordlands, south of the Kunnen, occupies some thousands of persons, between August and the close of the year; but the principal herring fishery is on the south coast of Norway, during the spring and summer. Mackarel, though abundant, is only salted in small quantities; and the halibut is almost entirely consumed in the country, either fresh, or cut in pieces, slightly salted, and dried in the air. The arctic shark is taken for the skin and liver; which latter affords a large quantity of oil. Whales frequently follow the shoals of herrings and other fish into the gulfs; but it is forbidden to molest them, as it is thought they drive the fish towards the shores.

The Norway lobster fishery is very productive, particularly near Stavanger and Mandal, from spring to midsummer. The English and Dutch took off these fish in well boats, in which they were kept alive, to London and Amsterdam. The English to the amount of 20,000 to 30,000 annually. The rivers of Norway abound in salmon, which, salted and smoked, affords a considerable object of export. The pine timber exported from Norway consists of planks, rafters, beams, masts, laths, &c. The Norway planks are more esteemed than those of America or other northern countries; for, the pine trees growing in a rocky soil, the wood is more firm and compact, and less liable to rot than that of trees which grow on a fat or sandy soil. The red pine (Scotch fir), and the white pine (Norway spruce), are the two species that afford planks. A great part of the trees are cut in the interior, and, being stripped of their branches, are abandoned to the rivers, which convey them to the fiords, where they are sawed into planks by water mills. More than three-fourths of the export of pine wood is made from the Gulf of Christiania, and principally from the town of Christiania, and the three towns on the Dram, which have but one custom-house.

Internally Norway is divided into four governments or dioceses, viz. Aggerhuus, by much the largest; Christiansand, Bergen, and Drontheim, a long track, extending to the north. The last is

succeeded by Norrland, also a long narrow province; and the whole is terminated by Finmark, or Norwegian Lapland, forming the northern extremity of Europe. The extent and population of these provinces are:—

Divisions.	Extent in English square miles.	Population.	Bailiwics.
Aggerhuus .	37,327	390,000	7
Christiansand	14,877	140,000	3
Bergen . .	14,356	150,000	2
Drontheim .	22,858	170,000	} 5
Norrland and Finmark .	71,582	80,000	
Total .	161,000	930,000	17

A return giving somewhat more than ten inhabitants for the square mile in the three southern provinces, between seven and eight in that of Drontheim, and little more than one in the inhospitable regions to the north. The towns are uniformly small and thinly scattered. We have mentioned the principal ones, which are naturally on the coasts.

No country in Europe presents grander scenery than this. From the great central chain of mountains which divides it from Sweden various branches diverge east and west. About the sixty-third degree of latitude this range divides into two branches. One enters Sweden, stretches towards the south-east, and gives a mountainous character to that part of the country. The other runs obliquely from the point of separation, towards the southern extremity of Norway. North of this division the whole chain preserves a position nearly parallel to the western coast. The appellation of Lang-fjeldt, or long mountain, has been given to the southern part of the Norwegian chain; Dovre-fjeldt to the central part; and Kiölen to that which skirts the borders of Norwegian Lapland. Many of the highest summits have also obtained particular names. The highest points in this range, as in many others, are near the middle, from which they decline towards each extremity. The loftiest summit is in the sixty-second degree of latitude, and forms a kind of central point, from which the ramifications proceed. It is here, in the principal chain of the Dovre-fjeldt, that the pyramidal Sneehättan rises to more than 8000 feet above the sea: very few of the other summits are more than 6000 feet, and some do not exceed half that altitude. Dr. Clarke says, 'It is the peculiar character of the Norwegian mountains to combine the grandeur of Alpine scenery with the dark solemnity of the groves of Sweden, and the luxuriant softness of the vales of Italy.'

We are tempted to subjoin a description of one of the sublime and almost romantic scenes of this country from the pen of a Norwegian clergyman, as it appeared in the Edinburgh Philosophical Journal for October, 1823. It depicts his endeavour to reach a farm in his parish which no preceding pastor of the district had ever visited.

‘On Sunday the 12th of June, 1818, after divine service, I set out from my manse in Aardalannex, in company with a number of people who had been at church, to Aardal’s Water. This lake is about three-quarters of a mile long (more than four English miles), and at the broadest half a quarter (about three-quarters of an English mile), enclosed on both sides by lofty mountains, which, from their steep and sometimes perpendicular hanging sides, forbid all approach by land. The lake is thus the only and the common communication between those who live above it and the other parts of the district of Aardal. There were many boats of us in company, the most of which strove with great exertion to row past one another. They are excellent rowers; and this passage to and from church never takes place without this sort of contest, the only object of which is the honor of winning. We pushed on, and were run on the beautiful Farnæs, where the river Utledal, which, by a course of six miles from where it rises in the mountains of Guldbrandsdal, runs through Utledal, Vettie’s Giel, Svalensdal, and Farnæs, and empties itself by seven mouths.

‘It was already evening, and pretty dark; I therefore took up my night’s quarters at the farm-house of Vee, a pretty large farm, which has an interesting situation on the south side of the river Utledal, not far from Farnæs. There my appointed guide was already waiting for me, a houseman (a sort of subtenant in Norway), who was well acquainted with the family at Vettie. We set out on our road early in the morning, and, as this was at first over fine even plains, we mounted on horseback. In the neighbourhood of Vee we passed a mighty water-fall, which, from a side dale called Røsdale, rushes down in one fall of 150 fathoms. Farther east is Valdersdal, so called, because in a stretch of four miles (about twenty-seven English), it goes up to the mountains of Valdres. Through this dale runs the river Thya, coming from the lake Thya, which here descends in a large fall, forming three cascades. Over its mouth is carried a bridge. A little farther on in the vale, on the other side of Utledal River, the course of which we follow the whole way, you see a rocky mountain called Møekamp, lying east and west, as if it were sunk between the far higher mountains on each side. Round the foot of this lie a couple of farm-houses, and several housemen’s places. From the River Thya you come on a very high sand-hill, under which lies the farm of Møe. When you have toiled up this difficult, and very steep hill, you come to Sualem-hill, a little mountain ridge lying east and west, and consisting of entirely naked slippery rocks, on which it is both difficult and dangerous to ride. You now come to the fine plain land of Sualem, which, of considerable extent, stretches on to the farm of Jelde. You have here got about half a mile from Farnæs, and you begin to perceive that the Giel is near.

‘Nature now assumes a severe character; her smile totally vanishes; the dale contracts itself closer together; the black mountain masses tower higher up on both sides, casting abroad their melancholy shadows. Before you come to

the farm-house of Jelde, you pass a bridge over the River Jelde, which, coming from a very high pasture-glen belonging to the farm, gushes down in a fall of about 200 fathoms. Every thing is gigantic and threatening. It is nature’s grand style. Small objects disappear, and the heart beats with the anticipation of approaching danger. At Jelde, you do well to dismiss your horse, and trust to your own legs. It will now too be of importance to provide yourself with an additional guide. At a short distance from the dwelling house of Jelde farm this frightful way begins. The entrance to the Giel is altogether worthy of it. You climb up over the hill of Jelde. This is a projecting out-corner of the mountain, consisting of granite, which, with an inward bend, hangs over the river which washes its foot. It is thus impossible to find a lower road, as this precipice forms the bank of the river. It is a severe exertion to climb this steep and difficult path at such a height, and constantly on the brink of precipices. It is probably this hill which has fixed the height of the path in the Giel itself; for, otherwise, you see no reason why it should have been cut out, at such a height, on the side of this frightful wall of rock, that the person who falls over it must be dashed to pieces, before he reaches the surface of the water. When you have reached the top of this hill, you turn round to the right hand, and enter into the Giel itself, by a bridge of pliant trunks of trees, laid over with birch-bark, and turf and gravel, that all swing under your feet. The mountain here hangs a little over the passenger’s head, and you willingly incline to it as to a friendly support, to avoid seeing, and, if possible, to avoid thinking of the abyss you are swinging over, but of which the gravel thrown down by the motion of the bridge is all the way putting you in mind. You are now in the Giel. Traveller, God be with you!

‘The path here is not broader than that a person can just stand on it with both feet beside each other. Sometimes you have only room for one foot; nay, at times, from the quantity of loose earth and small stones which you may well suppose are frequently tumbling down here, and covering the whole path, you find no place at all to stand on, but must, with your foot, in a manner scrape out such a place in these loose materials, which here lie over the surface of the whole precipice, the upper part of which forms a very sharp angle with your body, while the part below approaches frightfully near to a perpendicular line. About half a quarter of a mile on in the Giel, on the north side of the river, high up towards the summit of a mountain, there opens on you a cross valley, the remarkable Afdal. The houses on a farm which is here stand on so steep a slope, that, while the under-beams rest with one end on the ground, to have a horizontal position, they must be supported on the opposite side, by a wall of four ells in height (eight feet English). The fields, too, lie so steep, and so near the fearful precipice, that no person unaccustomed to it would venture to set a foot on them. And when, from the Giel, you see their grass fields, which hang, rather than lie over the deep below, and which are every year

snowed with a kind of scythe, wrought by one hand, you can scarcely conceive the desperate courage which coolly plies its task where an abyss seems open to swallow the fool-hardy man. Through a dale above the houses runs the river Afdal, which rises from the summits of the mountains called the Young Harlots. It runs past the farm at a distance of about thirty ells; and, at about 150 ells from it, with a noise like thunder, tumbles over the precipice in a tremendous fall. The violence of this, and the agitation produced by its rushing over, is such, especially in summer, that the house continually shakes; and every fluid which stands in an open vessel exhibits a constant tremulous motion. The walls, and the windows which are next the river, are always wet, from the vapor ascending from the fall. They told me that this fall was 200 fathoms high, and when you look down to the abyss below, and then raise your eye to where the river issues from this lofty vale, you can scarcely call it in question.

'Beside the fall in the hard granite precipice which it washes, they have mined a rut, I cannot call it a way, though it serves for one, broad enough for one man; or, at most, a little well-trained horse, but not beside one another, to go upon it. This rut, the roof of which is just so high that a grown up person can stand upright in it, is the only way to the farm-house till you get up to a considerable height. It reaches not, however, the whole way. There is a gap, which is filled up by pieces of timber, joined together, of six or seven ells in length, one end of which rests on this rut, the other on a projection of the mountain, which likewise serves as a support to a bridge which goes over the fall. In these pieces of timber are cut notches, which serve for steps; and in going up these notches while you see through the timbers the foaming cataract under you, and are involved in its mists, he must be a native of Leirdal who does not then feel that his life hangs on a few inches of slender tree. It is a matter of course, that neither this wooden path, nor the bridge itself, nor the rut in the side of the rock, are provided with any kind of rail or defence. A Leirdaller knows not the name, has not the conception of giddiness. He falls as other people do, although he stands where they would fall: he is dashed to pieces like them, but this comes from his inconceivable rashness, and from his not having wings. Of the ten years I have now been here, not one has passed without instances of persons being killed by falling over precipices. It is so much one of the common modes in which people die that it awakens no particular sensation. They believe, however, that the spirits of these persons go about after death, and they have a particular name by which they distinguish them from other ghosts. When the farmer in Afdal brings any thing to his house, when he comes to the river he must take it off the horse, and, letting him go loose before, he and his servants must carry every thing upon their backs.

'The farther we advanced in Vettie's Giel our road became more frightful. At one time you were stopped by snow that had tumbled down, and where it was only by passing quickly over

the loose heaps you could avoid sliding down the steep, at once to be dashed against the rocks and to be drowned:—next you stood horrified at the sight of a wall of ice, the remainder of a frozen current, by which all farther advance seemed to be rendered impossible. But for this Civind had prepared himself. With his axe he cut in the clear solid ice a notch, in which he set one foot, then another in which he set his other foot, and in this manner continued to cut and go forward till he had reached the other side. The rest of us followed in the steps which he had thus cut. You must put on resolution; there is nothing else for it. With the utmost caution, your eye fixed steadily on the point where you are to tread, you set forward foot by foot, without stopping to draw your suppressed breath. For more than half a mile (more than three English miles), we went forward on the brink of a perfect abyss, in this manner, sometimes passing masses of snow not yet melted, sometimes those huge frozen mirrors which hung almost perpendicularly from the summit of the mountain to the gulf below, and over which the axe only, by steps scarcely a hand breadth, could form for us a dangerous path. A slip, an unsteady step, or giddiness itself, which always threatens to overwhelm the unaccustomed traveller, and in a moment the torrent becomes the grave of your mangled carcase. But such is your whole course through Vettie's Giel, on a path where it is not often you can set down both feet beside each other. When overcome by the violence of the exertions I had to make, I stopped a moment. This rest, so far from being refreshing to me, was full of horror. It was better to go on, however exhausted. In doing so your thoughts were so occupied with the place where you might find some footing, that you had but little time to observe the grimaces with which death seemed every where to gape around you. But set yourself down, you cannot avoid seeing yourself sitting on the brink of an abyss; above you the high mountain ridge hanging over your head, below the more frightful steep sinking perpendicularly from your feet: on the opposite side of the Giel, the wildest torrents tumbling down hundreds of fathoms; whilst at the bottom the river, foaming and roaring with a deafening sound, rushed on with the rapidity of an arrow, and the road you had to go bent still far upon the sides of the precipice which hung over it: in short, you saw nothing but nature in her terrors: I involuntarily shut my eyes; my heart beat, and that I might not be overpowered by these sensations, I stood up, to expose myself to new dangers. I asked my guides if any body had ever come to mischief on this way. They recollected only one person, who, with a knapsack of birch-bark on his back, by a false step had tumbled over from about the very spot where we were standing. From an irresistible apprehension that I might be the second, I pushed forward immediately from such a place, but yet I found no safer way.

'It began now to rain, and as the part of the path on which we were was considered as dangerous, from stones that tumble down, we made all the speed we could. The bottom of the Giel began at last to widen a little; and at Hölifos.

about half a quarter of a mile from Vettie (three quarters English), it becomes about 150 paces broad. In other places it is never above thirty ells broad, and in some places not more than six or seven. Here my guide Civind left me, and went back alone with his axe, of which he had made such good use, telling me that now all the difficulties of the way were past; and they were so in comparison of those we had come through. Höliefoss is a fall in Utledal River of no great height, but of a force which you scarcely find in any other fall, and accompanied with a noise which deafens the ear. A mountain rock has here set itself fast in the bottom of the Giel: the river has been forced to dig itself a narrow passage between this rock and the high mountain precipice, between which it rushes forward with such irresistible violence, that stones thrown into it, or tumbling from the side of the mountain, are carried down on its surface.

'It rained now so hard that the water ran across our path: I quickened my pace to reach the end of this fatiguing and dangerous excursion. With all my haste, however, I could not escape being thoroughly wet. The path now descended gradually towards the river. The mountain, to the side of which, as to a wall, we had been, as it were, fastened the whole way, now turned a little off from us, leaving a broader though an irregular way. On a sudden it goes off entirely to the right, opening a new side valley, and, before I knew where I was, I stood on the fields of Vettie, only a little above the surface of the river. Heavy with my wet clothes, dropping with sweat, and exhausted by violent exertions, I was glad to reach the houseman's dwelling which lay nearest us, there to repose a little, under cover, before I should attempt to mount the long and high hill on which stood the farm-house.'

Here he passed the night, and adds, 'I had learned from the goodwife how they carry their children from this place to church. I was curious to learn of her husband how they got the dead carried from it to the church-yard. It is impossible that two people could go beside one another in the Giel; and I could not conceive that a coffin could be placed on horseback. He gave me the following account:—The dead body, wrapt in linen, is laid on a plank, in which are bored holes at both ends, to which are fastened handles of cord. To this plank the body is lashed, and is thus carried by two men, one before and another behind, through the Giel, till they come to the farm-house of Selde, where it is laid in a coffin, and carried in the common way to the church-yard. If any one die in winter, at a time when the bottom of the Giel is not passable, or in the spring or harvest, they endeavour to preserve the body in a frozen state, which is seldom difficult, till it can be carried off in the manner I have just mentioned. Still more singular was the method which the good man told me was employed several years ago to convey a dead body to the grave, from a houseman's place in Vormelien. This place lies in Utledale, which borders with the fields of Vettie. It has a most frightful situation deep in the Giel, by the side of the river; and, like Vettie, has no other road

but a small steep path, on the side of the most dreadful precipices. As the inhabitants of this place had been often changed there had been no deaths here. It happened at last, for the first time, that a young man of seventeen years of age died. It never occurred to them to think how they should get him carried to the grave, and a coffin is prepared for him in the house. The body is laid in it and carried out; and now, for the first time, they perceive with amazement that it is impossible in this way to get on with it. What is to be done? Good counsel is here precious. They leave the coffin as a memento mori at home, and set the dead body astride on a horse: the legs are tied under the horse's belly, —a bag of hay is well fastened on the horse's shoulders, to which the body leans forward, and is made fast; and in this manner rode the dead man over the mountains to his resting place in Forthuus Church, in Lyster,—a fearful horseman!'

Near the southern extremity of Norway is the lake Miøss, or Miosen, which exceeds fifty miles in length, but is very narrow, except in the central part, where it may be twenty miles broad. It contains an island about ten miles in circuit, which is fertile in pasture, wood, and grain. The long and narrow Ran-sion is situated north-west of Miøss. It is nearly fifty miles long, but not more than three in medial breadth. This lake, which is situated on the Norwegian Alps, through which the whole current of the Ljusdal flows, is considered by Dr. Clarke as one of the most magnificent in Europe, and as exceeding all others in its combination of rural scenery with the sublime objects of nature. 'Mountains,' he observes, 'islands, bays, promontories, broken shores, towering forests, hanging woods, sloping fields, cottages and farm-houses, with all the flood of waters, light and life about it, make it, perhaps, the grandest and most perfect association of the kind existing.' Tyri is also a beautiful sheet of water, situated between Ran-Sion and Christiania. It forms an expanse nearly fifteen miles each way. Its borders are cultivated and pleasant, and backed with high mountains. Further north, and near the confines of Sweden, is Fæmond, exceeding thirty miles in length, by about eight at its greatest breadth. This lake is embosomed in mountains, and situated nearly 3000 feet above the level of the sea. Many other lakes exist among the northern mountains of Norway, but they are too little known to be correctly described.

The *climate* of this country is not so severe as that of some others in the same latitude; and the air is generally clear and healthy. On the coast the atmosphere is often less cold than in the interior of Germany: but fogs, wind, and rain are of frequent occurrence here. In summer the length of day greatly counterbalances the shortness of the season, and the corn ripens rapidly. In Norrland and Finmark the sun remains above the horizon for several weeks together, and is of course invisible in winter for a corresponding period; but the dreariness of this scene is, however, greatly lessened by the brightness of the snow, reflected from the mountains, the brilliant aurora borealis, &c. *Tornea.*

situated at the extremity of the Bothnian Gulf, and nearly in 66° of lat., has a much milder climate than many other places in a lower latitude. On this subject, M. Von Buch, who was here in the autumn of 1807, says 'The greatest part of September was now past. I was hourly expecting the snow, yet wishing to flee from it before the earth was permanently covered. Like many others, however, I had rated the climate of Tornea too low; for they were still living here in a pleasant autumn. The air was calm, clear, and still. It froze a little in the night, but the rays of the fore-noon sun soon dissipated the ice. The sun afforded a gentle heat at mid-day, and with pleasure I went about the country in this temperature. The thermometer rose to 50° of Fahrenheit, and sunk in the afternoon very slowly. The trees were yet in full glory, and no where had they lost any of their leaves. A firm snow track was not expected here till the end of October, and it is seldom earlier. September is at Tornea what October is in the north of Germany; and the polar region does not vindicate her violated sovereignty till the end of November. At Enontekis, in Lapland, situated on the west bank of the river Tornea, more than 200 miles north-west of the extremity of the Bothnian Gulf, and approaching the Norwegian Alps, a register was carefully kept for several years by the Rev. Eric Grape, and the results communicated to the Stockholm Academy of Sciences, by Dr. Wahlenberg. The latitude of the place of observation was 68° 30', and the results are singular. The mean of the year is 26°. 85, and that of February 0°. 55, yet the mean temperature of July was 59°. 63. In consequence of this high state of the thermometer, during the summer months, the country is not only capable of producing several kinds of trees, but even pot-herbs. On the eastern side of the Norwegian Alps the temperature depends chiefly upon the height of the place, and its distance from the sea; but, on the opposite side of these mountains, the change of latitude has the greatest effect. In many parts of Norwegian Lapland the annual temperature is almost equal to that at Upsal, about 8° farther south; and hence many plants of more southern climes flourish there. Towards the northern extremity of the peninsula, however, the summers are too cold for any plants to vegetate. The following table of the mean monthly temperature of Magerøe, near the North Cape, is drawn up from the observations of M. Von Buch, who spent some time here in 1807.

Mean height of Fahrenheit's thermometer.

January . . .	22° 08	July . . .	46° 42
February . . .	23° 16	August . . .	43° 70
March . . .	24° 71	September . . .	37° 62
April . . .	30° 02	October . . .	32° 00
May . . .	34° 07	November . . .	25° 75
June . . .	40° 14	December . . .	25° 74

The winters here, however, according to this writer, are less dreaded for the cold than for the tremendous winds they bring.

The soil of Norway we may suppose to be comparatively barren: but the inhabitants are at least proportionably hardy; and contentedly mingle

in some seasons pine bark with their homely bread. In the vicinity of Bergen, however, there are some fertile tracts; and our common garden fruits are here cultivated with success. Flax and hemp are also raised in many parts, in others barley and oats; but not more than 100th part of the kingdom is supposed to be under tillage, and there is an annual importation of above 200,000 quarters of grain to this place. In pasturage this country is more fortunate. As soon as the snow disappears on the sides of the mountains, the grass is seen rising to the height of eight or nine inches. Cattle are consequently reared in numbers and exported.

The forges of Norway are said to yield from 5000 to 6000 tons annually of bar iron: and in cannon, stoves, and other homely hardware, from 2000 to 3000 tons; the whole forming an annual value of from £100,000 to £200,000 sterling. The copper of this country is of very superior quality; the chief mines are at Roraas, an inland town, about eighty miles east of Dronheim. The only silver mine worked at present is that of Kongsberg; but neither it nor the gold mine at Etwold are productive. The same remark applies to the lead mines; and its marble quarries are little wrought. Stone for building, and slate, are in great abundance; and the loadstone, or natural magnet, is also frequently found and exported. Of salt the only large work is at Walloe, near the town of Tonsberg. It yields about 20,000 tons annually.

The animals are common to many other parts of Europe, and are hardy, but diminutive. This is particularly the case with the horses and cattle. The latter fatten, however, readily in the isles which border the coast, as well as in the valleys of the interior. Goats are more common than sheep, and there are very few swine. In Norwegian Lapland the reindeer forms the sole wealth, as we have seen. Attempts are at present making to rear this animal in the southern provinces. Game abounds throughout; and in the mountains and forests are numbers of wolves, bears, lynxes, and foxes. The first are numerous, and sometimes make great havoc. Birds are also abundant, and several of the species are rare. Aquatic fowl are in such numbers that bird-catching, even among the stupendous cliffs, has become a regular and very considerable employment.

The human race is, however, far from diminutive here: in general being above the middle size. There is a great diversity of races and appearances, and it is said to be one of the most interesting engagements of every stranger who visits Norway to observe this variety at Christiania and other considerable places of resort. Dr. Clarke comparing the Norwegians with their neighbours, the Swedes, characterises the former as the less virtuous, but more lively people, and allows them to possess many amiable and valuable qualifications. 'Hospitality is not rendered oppressive, as is often the case in Sweden; but, among the higher order of Norwegians, it is most liberally bestowed: there cannot be found upon earth, he says, a more generous or disinterested race of men.' We are therefore rather puzzled to find the spring of their peculiar vices. The peasantry of the interior lead a secluded life,

unable to change one description of commodities for another, and are obliged to devise homely substitutes, making their own cloth, shoes, caps, and even their knives and hatchets. The inhabitants of the towns act differently, and import various articles, such as woollens, cottons, silks, groceries, wine, spirituous liquors, and corn. These are paid for by their timber, iron, copper, and, in a less degree, by glass, potash, fish, and oil; also by cattle, hides, and tallow.

'They live,' says Von Buch, 'in earthen huts, which, being covered over with grass, bear a resemblance to small hillocks; dwellings like those of the Tungusians, or like the Gammes of the Finns. The interior, however, looks more like a house. When we squeeze ourselves through the three feet high door, which is made to shut of itself, we go through a dark passage to the various compartments of the hut; a similar door opens into the dwelling-room; and this apartment differs in nothing from the usual dwelling-place of the peasants at Bergen. It is constructed of logs, quadrangular up to the roof, which is a quadrangular pyramid, with a square opening in the middle, that at night is closed with a blown-up fish bladder, and through which the light enters, and the smoke issues during the day. The furniture consists of a table, and a bench behind it; the bed of the master of the house, and a cupboard or press, and chests, are ranged round. The children and servants sleep on the outside of the room, or beside the cow. The kitchen is a large chimney in the corner of the room. This is actually the most convenient manner of laying out a house in climates like these, where not a twig for firing is grown. The thick earthen wall makes a cellar of the hut, in which the temperature does not come in contact with the external temperature for weeks. Whether it storms or snows without, whether it is winter or summer, cannot be felt in one of these earthen huts; but in a common northern log-house every external change is felt in a few hours in the inside. The air penetrates through doors and windows, and finds its way over the whole house. It is singular that the richer class, the *Storkarle* (great fellows), as they are called by the Laplanders, or the lords, as they are called in the canton of Schweiz, or the people of condition as they call themselves, do not adopt this mode of constructing houses of earth, and pass the summer in the large log-house, and the winter between earthen walls. For nothing prevents them from ornamenting the inside as well and comfortably as the taste of the inhabitants can wish; and though in such a dwelling there is little light, and almost no prospect, during four months of continual night, little of either can be expected.'—Von Buch's Travels. It is with England, Holland, and Denmark, that the intercourse of Norway is greatest. With the last, however, it is less, since the separation of the two kingdoms. Kelp (from burned sea-weed) is here, as in the west of Scotland, an article of importance.

Internally Norway may be considered as enjoying great practical freedom. The peasantry are strangers to the servitude which has existed till lately in Jutland and Russia, and are all free born, though it is remarkable that they have no

family names. Education is in the imperfect state that may be anticipated in a country so thinly inhabited. At Bergen there is a university on a small scale; there are also two other public seminaries founded by government; one in 1811 at Kongsberg, the other in 1812 at Christiania. The latter has also a military academy. The public schools of a second class are more numerous. The elementary or parish schools are supplied chiefly by teachers educated at a separate preparatory seminary in Sweden or Germany. Christiania has a public library, and topographical society. Dronheim has also an academy of sciences, with a library and collection of objects of natural history. This society has published several memoirs on the natural history and antiquities of the north.

Norway has a separate assembly or diet, but no royal establishment, being governed as a province of Sweden, exactly as it was formerly in regard to Denmark. Justice is administered, in each province, by a high court, subject only to the supreme court at Stockholm; but the subdivisions of the provinces have each a separate inferior court. The yearly revenue is below £400,000 sterling; and the public expense is nearly equal to that sum. The imposts are in the nature of a land-tax, derived from the produce of agriculture and the mines. The military force is 10,000 to 12,000 regulars, and a larger number of militia. Attached to them is a small body, who wear on their feet long boards, or snow shoes, to act on the snow and ice. The navy of Norway is on a very small scale, comprising only twenty-five lieutenants, and six superior officers. The clergy consist of five bishops, viz. one for each of the governments, and one for Norrland, forty-nine deans, and 329 pastors.

Until the ninth century Norway was divided into several petty principalities. It was then little known to the rest of Europe, except by piratical excursions; but, towards the end of the fourteenth century, the ambitious Margaret of Denmark prevailed on the nobleman next entitled to an important part of the succession, to abdicate in her favor. Norway thus became incorporated with Denmark in 1397; and, though its independence was recognised, it was governed as a province. Still the national spirit was flattered by the kings of Denmark always distinguishing it as a separate kingdom in diplomatic treaties and state transactions; and Norway thus participated, during more than four centuries, in the political circumstances of its neighbour, and enjoyed a fair portion of the commercial advantages arising from the pacific policy of Denmark. The first severe blow to this state of peaceful rule was given to Norway by the war with England in 1807; and this state of hostility continued when, in 1812, the threatening expedition of Buonaparte against Russia induced that power and Great Britain to exert themselves to secure the alliance of Sweden. To Bernadotte a substantial consideration became necessary; and, as Russia was determined not to restore Finland, the two courts resorted to the strange plan of stipulating for Sweden the conquest and possession of Norway. After the catastrophe of the French in Russia, Denmark made pacific

overtures to our court, but failed: and no sooner had the battle of Leipsic (18th October, 1813) decided the fate of the French in Germany, than Bernadotte directed a strong body of Swedish and other troops against Holstein, and obliged the Danish court to sign, on 14th January 1814, the treaty of Kiel, sacrificing Norway for the poor return of Swedish Pomerania and the Island of Rugen. Indignant at this, the Norwegians took up arms, and elected Christian Frederick, prince of Denmark, to the throne of Norway. The force he raised was considerable for the country, but wholly unable to resist the arms of Sweden, and, we regret to add, of England. After a spirited resistance, he consented to a treaty, agreeing to resign his crown into the hands of the diet; and, on 20th October 1814, that assembly came to the resolution that Norway should be permanently governed by the same king as Sweden, but as an integral state, and by its own constitution and laws.

NORWICH, a city in Humbleyard hundred, Norfolk, twenty-nine miles north-east from Thetford, and 108 north-east from London. It contains forty-one parishes, having thirty-two churches within and four without the city walls, besides several respectable places of worship for the dissenters. The inhabitants are chiefly employed in trade and manufactures, principally those of woollen stuffs; which were first introduced by the Flemings so early as the reign of Henry I., at a place called Worsted, in this county.

In 1365 Norwich invited a number of the persecuted manufacturers of the Low Countries 'to set up the making of bayes, sayes, arras,' &c., and various works mingled with silk and linen yarn; and, in 1575, they first made bombazines. Damasks, camlets, and crapes, have of late years been made here, but its trade has declined since the great increase of the cotton manufactures, the introduction of the cotton-thread lace business, and the Suffolk hempen linen. The chief goods now manufactured are bombazeens, camlets for the Indian and Chinese markets, and shawls of various and elegant kinds, principally for English consumption. This last article, introduced when the demand for stuffs from Spain ceased, has been highly beneficial to the city and its neighbourhood; particularly since the introduction of machinery has destroyed the habit of spinning, which a few years ago universally prevailed among all the female peasantry.

This is the principal city in the east part of the kingdom, and is situated on the river Yare, over which there are six bridges. Norwich is first mentioned in authentic history in the Saxon Chronicle, in the year 1004, when Sueno the Dane destroyed it; after which it lay in ruins for seven years. It flourished and had twenty-five churches in the time of king Edward the Confessor. To prove that it was a place of note in the early time of the Saxons, Mr. Bloomfield, in his Essay on the History of Norfolk, has enumerated various coins, with the name of this city inscribed on them: one of Athelstan, one of Edred, with this inscription:—

‘ EADRED REX HANNI MO NORTHWIC.’

And another of Etheldred II., in whose miserable reign Sueno, the Danish monarch, inflicted such dire vengeance on this city. It regained its eminence, however, soon after; for, in the Confessor's time, it had '1320 burgesses, and paid £20 to the king, and £10 to the earl, also 20s., and four prebendaries, and six sextaries of honey, and a bear, and six dogs to bait him.' Its ancient castle is said to have been built about the year 575, by the Saxon king Offa, and afterwards rebuilt by Alfred. In 1325 the sessions were directed to be held here, and in 1399 it was made the county gaol. It stands in the heart of the city, having a deep moat round it, now dry and converted into gardens, over which is a bridge of one arch. Mr. Bloomfield is of opinion that the present structure was erected by Roger Bigod, in the time of William Rufus, and that it occupies the site of a brick building raised by Canute. The workmen, in sinking a well within the walls of the castle, a few years since, when they came to the level of the ground, without the ditches, found a beaten and regular footpath, used before the hill was thrown up. The principal entrance to the castle was by Bar or Bere Street and the Barbican gate, which was flanked by two towers, and connected with the external vallum by a wall. The walls, says Grose, were commonly flanked with towers, and had an embattled parapet crenellated or garreted; for the mounting of it there were flights of steps at convenient distances, and the parapet often had the merlons pierced with long chinks, ending in round holes, called œuillets. The walls of the castle have long been destroyed: the outer and the inner valla levelled, and the fossa filled up for building and other purposes. Over each fosse were two bridges, one of which only remains. The arch of this bridge is much admired for its size and structure. At the inner extremity of the bridge are the foundations of two circular towers, of fourteen feet in diameter, one of which was appropriated for condemned criminals until 1793, when the new buildings were erected. This bridge is nearly 150 feet in extent, and rises, from the inner to the upper ballium, sixteen feet. It has been much altered at different times, and is at present faced with square flint. Near the south-west angle of the inner ballium is the square keep-tower, the antiquity and architecture of which, says the author of the Beauties of England and Wales, has afforded a very fertile theme for disputation. On each side of the keep is a projecting tower of fine Norman architecture, called 'Bigod's Tower.' The interior of the keep is now an unroofed area, but was formerly divided by floors, covered in at top, and separated into several spacious apartments. Within the castle is a royal free chapel of exempt jurisdiction, which is now only used for the prisoners. The streets are upon the whole gloomy and ill planned: but considerable improvements have been made in the more modern parts, and they are often pleasantly interspersed with gardens.

The cathedral was erected in 1096, by Herbert de Losing, but being damaged by fire, in 1171, it was repaired by John, bishop of Oxford. Bishop Percy built the present spire in 1361

which exceeds all in England, Salisbury excepted, being 105 yards, two feet, from the point to the floor, including the tower. The present nave, with its beautiful stone roof, adorned with historical pieces from the Bible, was the work of bishop Lyherst, 1463; and his successor, Dr. Goldwell, put a similar roof on the choir; the transepts being injured by fire, in 1509, were repaired and roofed in the same style by bishop Nix. The church is 400 feet from east to west, and the transepts from north to south 180.

St. Mary's chapel, at the east end, was seventy feet by thirty; being in a ruined state, it was pulled down between 1573 and 1589, by dean Gardiner, who committed great dilapidations on the other buildings. The choir has been refitted in a Gothic style, under the direction of Dr. Lloyd, the dean, whose accomplished lady painted the east window, with the subject of the Transfiguration, from a beautiful design by Raphael; this work, so honorable to this lady's talents, her taste, and her judgment, she completed, after much labor, attention, and fatigue, in 1781. The architecture of this noble pile is chiefly Norman, where the semicircular arch and large short column are the leading features. The west front of the cathedral displays a large central compartment, fronting and corresponding with the width and height, also two lateral divisions corresponding with the side aisles. In the cathedral lies entombed the illustrious founder, bishop Herbert de Losinga. He was removed from the see of Thetford (which was then abolished) to Norwich; he was abbot of Ramsey, and lord chancellor, and died in 1119. His tomb was destroyed during the civil wars, but a new altar monument was erected to his memory, by the dean and chapter, in 1682; it stands in the central part of the choir, enclosed with an iron palisade; there are also monuments in the cathedral to the memory of bishops Scambler and Overall. On the choir floor is a monument in memory of Sir William Boleyn, great grandfather to queen Elizabeth.

Among the ancient religious houses, which abounded in this city, we must notice that of the Austin or Augustin Friars, founded before the 18th of Edward I. It had a fine church, which is now destroyed. John de Hustingford, in 1226, founded a house for the Gray Friars, since pulled down. In 1256 Philip Cougate, a merchant of this city, founded the White Friars, or Carmelites' monastery, the hall and kitchen of which now form a Baptist meeting. St. Mary's College in the fields, founded before 1250, for ten prebends, is now a private house. The Priory, built by bishop Herbert, about 1101, for sixty monks of the Benedictine order, stood in what at present is called the Lower Close. On pulling down the workhouse, in 1804, to improve the entrance to the deanery, some ruins were discovered, supposed to have been remains of the refectory and dormitory. This priory had a miraculous image of Henry VI. Henry, earl of Surrey, built a house on its site.

St. Julian's church, founded before the conquest, was given by king Stephen to the nunnery of Carhow, alias Carrow. The church of St. Peter Mancroft is a large regular building,

finished and consecrated in 1455, and greatly distinguished for its superiority to the other churches. It stands on an elevated spot, at the south-west corner of the market-place, and consists of a square tower, 100 feet in height, and a body composed of a nave, choir, and chancel, measuring 212 feet in length by seventy in width. On the north and south side are entrance porches: the altar is ornamented with a painting, representing the deliverance of St. Peter from Prison, by Catton, a native of Norwich: it was given by alderman Starling in 1768. Sir Thomas Browne, M. D., the author of *Religio Medici*, lies interred here. The church of St. Lawrence is a regular and handsome building, erected in 1742, at the expense of the monastery of St. Edmund's Bury. The tower is a square building, 112 feet in height. Previous to the civil wars it was highly decorated, and the windows ornamented with painted glass: but, in 1643, the communion rails were broken down, the floor of the chancel taken up, and the stained glass defaced. Mr. Blomfield extracts from the parish register this entry:—'Laid out to Goodman Perfett, for the putting out of the superstitious inscriptions in the church windows, and the pulling down of crucifixes, 1s. 8d.' Opposite St. Lawrence's steps is a conduit, called Gybson's Well, with a long ancient inscription.

Here are also two churches for the descendants of the Flemings, who are very numerous, and have particular privileges. Besides the cathedral, churches, and castle, other public buildings worth notice are, the county gaol, erected in 1793 on the castle-hill; the town hall; St. Andrew's hall; the assembly-room; theatre; house of correction; shire-hall, where the assizes are held; a lofty market cross, with a piazza, and the bishop's palace.

St. Andrew's hall is a noble building, and was formerly a church belonging to a monastery of Black Friars. It was first begun in 1415, by Sir Thomas Erpingham; and had a handsome steeple, which, through decay, fell down in 1712. At the dissolution of the monasteries it was given to the mayor and citizens, for a hall to repair unto as a common assembly. In 1544 the first mayor's feast was held in this hall, now denominated St. Andrew's. In 1774 it underwent alterations, and received some additions; in the year 1796 the hall was opened as a corn exchange, for which purpose it is used every Saturday. It was new painted, and the pictures cleaned and varnished, in 1803. There are numerous paintings embellishing this hall, among which are those of queen Anne and prince George of Denmark. In the centre is an admirable likeness of lord Nelson of the Nile, painted by Sir William Beechey. The assizes for the city were formerly held in this hall.

To the king's school, first endowed by Edward VI., the boys are nominated by the mayor and aldermen; the city being governed by a mayor, recorder, steward, two sheriffs, twenty-four aldermen, sixty common-council, town-clerk, and inferior officers. The mayor is chosen on May-day by the freemen. Here are also four well-endowed hospitals, and a great number of charity schools. The Norfolk and Norwich Hospital

is a most superb building. The Norwich dispensary affords advice and medicine gratis to the poor. The Norwich public library was instituted in 1784, and consists of about 5000 volumes. A society has also been established here for the encouragement of the fine arts. About one mile north-east of the city was a hospital for lepers, and on a hill near Thorpe-wood a small priory, both founded by bishop Herbert, which at the dissolution was granted to the duke of Norfolk.

In 1348 58,000 persons were carried off here by the plague, and in 1505 it was almost consumed by fire. The city sends two members to parliament, who are elected by the freeholders and freemen, whose number is about 3000. It gives the title of earl to the duke of Gordon. There are eight wardens of the weavers chosen annually, and sworn to take care that there be no frauds committed in spinning, weaving, or dyeing stuffs. The city is reckoned six miles in compass. The markets are said to be the greatest in England, and furnished with a great variety of goods and provisions. We may here observe, that what are called the keels and wherries are in a great measure peculiar to the navigation between Norwich and Yarmouth, and are supposed to be superior to any small craft upon any other stream in England, for carrying a large burden at a small expense. They have but one mast, which lets down by a windlass placed at the head, carry one large square sail, are covered close by hatches, and have a cabin superior to many coasting vessels, in which it is not unusual for the keelman and his family to live. They are never navigated by more than two men, and often by a man and his wife, or a man and a boy. The usual passage for a loaded keel is from twelve to sixteen hours; when light they perform it in five hours. The river is sufficiently broad in all places to permit two loaded keels to pass each other, and in some parts is twice that breadth. In the whole distance of thirty-two miles to Yarmouth there is no obstruction by a lock or bridge. This kind of craft carry grain of every sort grown in the county, flour, &c., besides the goods manufactured at Yarmouth for foreign markets. In return, from Yarmouth, they bring coals, grocery, ironmongery, timber, wine, spirits, &c. The freight for grocery, and other goods imported, does not exceed 1s. 6d. per ton; and smaller articles pay about 4½d. the hundred weight. The wherries are from fifteen to twenty-five tons burden; keels from forty to sixty. The mast of the wherries is placed at the head; that of the keels in the middle. The passage depends upon the wind; when favorable, these vessels sail very quickly; when they go against the wind, they are pushed by long poles, called quants, which reach to the bottom; this is a slow and laborious process. The markets are on Wednesday, Friday, and Saturday. Fairs, Monday, Thursday, and Saturday, before and after Whit-Sunday. In 1823 an act was passed for building an additional county gaol, house of correction, and shire-house.

NORWICH, a city of New London county, Connecticut, on the Thames, at the head of a navigation; it is fourteen miles north of New Lon-

don, thirty-eight south-east of Hartford, and forty-five W. S. W. of Providence. Population 3528. It contains a court-house, a jail, a bank, two insurance offices, and five houses of public worship, two for Congregationalists, one for Episcopalians, one for Baptists, and one for Methodists. It consists of three parts, the town, Chelsea Landing, and Bean Hill: in the last there is an academy, and in the town there is an endowed school. Norwich is a pleasant town, considerable both for trade and manufactures. The county courts are held here and at new London alternately. Also a town of Windsor county, Vermont.

NOSE, *n. s., v. a., & v. n.* } Saxon, *nora* ;
 NOSE-BLEED, *n. s.* } Goth. *naus* ; Isl.
 NOSELESS, *adj.* } *nos* ; Teut. *nase* ;
 NOSLE, *n. s.* } Dan. *nase* ; Swed.
nos ; Lat. *nasus*. 'From this root,' observes Mr. Thomson, 'came nosle, snaffle, snarl, snort, snast, sneeze, sneer, snipe, sniffle, snivel, snore, snot, snout, snuff, and snuffle.' The organ of scent; hence any prominence, or end of a thing; and hence, scent, sagacity: to nose is to scent or smell: also to bluster; to look big; thrust one's nose forward: and the last is a phrase for a meddling disposition: to 'put one's nose out of joint' is to put one out of favor, or out of the affection of another. Nose-bleed is a kind of herb: noseless, deprived of, or wanting a nose: nosle, the extremity of a thing.

Nose of Turks and Tartars' lips. *Shakspeare*
 Our decrees,
 Dead to infiction, to themselves are dead ;
 And liberty plucks justice by the *nose*. *Id.*
 Tho' authority be a stubborn bear,
 Yet he is oft *led by the nose* with gold. *Id.*
 Mangled Myrmidons,
Noseless and handless, hackt and chipt, come to him. *Id.*
Nose him as you go up the stairs. *Id.*
 Adulterous Antony
 Gives his potent regiment to a trull
 That *noses* it against us. *Id.*
 In suits which a man doth not understand it is good to refer them to some friend, but let him chuse well his referendaries, else he may be *led by the nose*. *Bacon.*

That some occult design doth lie,
 In bloody cynarcotomachy,
 Is plain enough to him that knows
 How saints *lead brothers by the nose*. *Hudibras.*
 The lungs are as bellows, the aspera arteria is the *nose* of the bellows. *Holder's Elements of Speech.*
 This is the method of all popular shams, when the multitude are to be *led by the noses* into a fool's paradise. *L'Estrange.*
 There can be no reason given why a visage somewhat longer, or a *nose* flatter, could not have consisted with such a soul. *Locke.*
 We are not offended with a dog for a better *nose* than his master. *Collier on Envy.*
 Poetry takes me up so entirely, that I scarce see what passes under my *nose*. *Pope's Letters.*
 In behalf of the *nose* it will quickly appear,
 And your lordship, he said, will undoubtedly find,
 That the *nose* has had spectacles always in wear,
 Which amounts to possession time out of mind. *Couper*
 A kind of sleeping Venus seemed Dudu,
 Yet very fit to 'murder sleep' in those

Who gazed upon her cheeks transcendent hue,
Her Attic forehead and her Phidian nose.

Byron.

NOSE. See ANATOMY, Index.

NOSE'GAY, n. s. Nose and gay. A band of flowers.

She hath four-and-twenty nose-gays for the shearers.

Shakspeare.

Get you gone in the country, to dress up nose-gays for a holy-day.

Arbuthnot's History of John Bull.

Ariel sought

The close recesses of the virgin's thought ;

As on the nose-gay in her breast reclined,

He watched the ideas rising in her mind. Pope.

NOSOLOGY. See MEDICINE.

NOSOPOETICK, adj. Gr. νόσος, disease, and ποιέω, to produce. Producing diseases.

The qualities of the air are *nosophetick* ; that is, have a power of producing diseases. Arbuthnot.

NOSS, one of the most fertile of the Shetland Isles, south-east of Bressay. Near it there is a rock, or holm, about 150 feet high, and perpendicular on all sides. The opposite rock on the island is nearly of equal height, and distant about 240 feet. The holm, which is quite level on the top, produces excellent grass. Although it seemed inaccessible on all sides, the richness of the grass, and the vast numbers of sea fowls which breed on it, induced the proprietor, many years ago, to try some means of passing from the island to it. Accordingly a daring islander attempted to climb up and succeed. He fixed posts in the ground, about two feet and a half from each other, corresponding posts being fixed on the opposite side. Ropes were stretched across from the one side to the other, upon which a wooden cradle slides along, and affords a safe conveyance between the island and the holm. But the man who first ascended the rocks would not take the benefit of the cradle, but, attempting to return the way he went up, fell and was killed. Sheep are now annually put on the holm in spring, and taken back in autumn.

NOSTOCH, in natural history, shot stars ; tremella nostoc (Lin. Spec. Plant. Dillenius de Muscis, tab. 10, fig. 14. Flor. Danica, tab. 885, fig. 1) ; tremella intestinalis vel mesenterica, (Lin. Spec. Plant. Dillen de Musc. tab. 10, g. 16. Flor. Danic. tab. 885, fig. 2.) This substance is not infrequent in England, nor in other parts of Europe, after rains, both in spring and autumn. Very large spots of it are seen in gravelly soils, and particularly on the tops of hills, and on open downs, and often it is found on gravel walks. It is met with in some of the old authors, under the name of nostoch, as in Paracelsus and others ; and the alchemists fancied there was something wonderful in it, and that it would afford a menstruum for gold. It was believed to fall from the sky with the meteors that we often see, and call falling stars. Hence the country people in Sweden have called it sky-fall ; and in England it is known by the name of witches butter, in common with some of the gelatinous liverworts. Paracelsus, Van Helmont, and others, ranked it with the terniabin, or manna, and thought it dropped, as that did, from heaven. It is described, and the chemical analysis thereof given, by M. Geoffroy, in the

Paris Memoirs for 1708, and is there said to yield, besides an acrid phlegm, a portion of concrete volatile salt, and some fixed salt. Since the days of Paracelsus it has been considered as a vegetable production ; but the botanists have had difficulty to assign its place or genus in their several systems. Now, however, it is generally thought that these substances are the result of animal putrefaction, and more particularly of the bowels of frogs which have been voided by birds.

NOSTRADAMUS (Michael), an able physician and a celebrated astrologer, was a Provençal of a noble family, and born 1503, at St. Remy, in the diocese of Avignon. By his grandfather he was initiated in the mathematics. He afterwards completed his courses of humanity and philosophy at Avignon ; and, going to Montpellier, he applied himself to physic, till being driven away by the plague, in 1525, he removed to Thoulouse, and afterwards to Bourdeaux. This course he held five years, during which he practised physic. After this he returned to Montpellier, and was created M. D. in 1529, and then revisited the same places. At Agen he contracted an acquaintance with Scaliger, and married ; but his wife dying, and two children she had brought him, he quitted Agen, after a residence of about four years. He returned into Provence, and fixed himself at Marseilles ; but afterwards settled at Salon, in 1544. In 1546, Aix being afflicted with the plague, he went thither at the request of the inhabitants, and was of great service, so that the town in gratitude gave him a pension for several years after the contagion ceased. Returning afterwards to Salon, he became a recluse, and applied himself to his studies. He now began to think himself inspired, and miraculously illuminated with a prospect into futurity. In 1555 he published a volume of his prophecies, containing seven centuries of quatrains ; and in 1558 he published a complete milliade. In that superstitious age these productions procured him admirers even among crowned heads ; and, one of his obscure passages being interpreted into a prediction of the death of Henry II., after the event Charles IX. presented him with 200 crowns, and constituted him his physician in ordinary. But our prophet enjoyed these honors only sixteen months ; for he died July 2d, 1566, at Salon. Besides his Centuries, he published, 1. A Treatise de Fardemens et de Senteurs, 1552 ; 2. A book of singular receipts, Entretien la Santé du Corps, 1556 ; 3. A Piece des Confitures, 1557 ; 4. A French Translation of the Latin of Galen's Paraphrase, exhorting Menedolus to Study, especially to that of Physic, 1552 ; 5. A small instruction for husbandmen, entitled, The Almanac of Nostradamus. After his death came out The Eleventh and Twelfth Centuries of his Quatrains, added to the former ten, which had been printed three times in two separate parts.

NOSTRE (Andrew le), comptroller of the buildings of the French king, and designer of his gardens, distinguished himself by carrying the art of laying out gardens to great perfection. He was born at Paris in 1631 ; and was nearly forty years of age when M. Fouquet, superintendent of the finances, gave him an opportunity of becoming known by the fine gardens of Vaux le

Vicomte. He was afterwards employed by Louis XIV. at Versailles, Trianon, St. Germain, &c., and discovered an admirable taste in all his works. In 1678 he went to Rome to improve his taste, but found nothing there comparable to what he himself had done. Le Nostre had also a talent for painting. He preserved his vivacity of mind to the last, and died at Paris in 1700, aged eighty-seven.

NOSTRIL, *n. s.* Nose and Sax. ðýnl, a hole. The cavity of the nose.

Turn then my freshest reputation to

A favour that may strike the dullest nostril.

Shakspeare.

tinks which the nostrils straight abhor are not the most pernicious.

Bacon's Natural History.

We can tell of those cheap-dieted men that live about the head of the Ganges, without meat, without mouths, feeding only upon air at their nostrils.

Bp. Hall.

He formed thee, Adam, and in thy nostrils breathed The breath of life.

Milton.

The secondary action subsisteth in concomitancy with the other; so the nostrils are useful both for respiration and smelling, but the principal use is smelling.

Brown.

These ripe fruits recreate the nostrils with their aromatic scent.

More's Divine Dialogues.

With broadened nostril to the sky upturned The conscious heifer snuffs the stormy gale.

Thomson.

In his eye

And nostril beautiful disdain and might, And majesty, flash their full lightnings by, Developing in that one glance the Deity.

Byron.

NOSTRUM, *n. s.* Lat. *nostrum*. A medicine not yet made public.

Very extraordinary, and one of his nostrums, let it be writ upon his monument, Hic jacet auctor hujus argumenti; for no body ever used it before.

Stillingfleet.

What drop or nostrum can this plague remove?

Pope.

NOT, *adv.* Sax. *naþ*, *naþe*; Goth. and Belg. *neit*. A particle of negation; refusal; prohibition or exception; on no terms; in no wise; no more.

The man held his peace, to wit, whether the Lord had made his journey prosperous or not.

Genesis.

I will for this afflict the seed of David, but not for ever.

Kings.

Thine eyes are upon me, and I am not.

Job. vii.

I was not in safety, neither had I rest.

Id.

Stand in awe, and sin not.

Psalms.

Forsake me not, O Lord; O my God, be not far from me.

Id.

Not for price nor reward.

Isaiah.

If thou be the world's great parent, How falls it then that with thy furious fervour Thou dost afflict as well the not deserver, As him that doth thy lovely hests despise?

Spenser.

His countenance likes me not.

Shakspeare. King Lear.

The question is, may I do it, or may I not do it?

Sanderson.

He is invulnerable, I not.

Milton.

Let each man do as to his fancy seems;

I wait, not I, 'till you have better dreams.

Dryden.

Then let the greedy merchant fear

For his ill-gotten gain;

And pray to gods that will not hear,

While the debating winds and billows bear

His wealth into the main. *Id. Horace.*

Grammar being to teach men not to speak, but to speak correctly: where rhetoric is not necessary, grammar may be spared. *Locke on Education.*

This day, be bread and peace my lot;

All else beneath the sun

Thou knowest if best bestowed or not,

And let thy will be done.

Pope's Universal Prayer.

NOTABLE, *adj.*

NOT'ABLENESS, *n. s.* } Fr. *notable*; Lat. *notabilis*. Remarkable; memorable; singular; hence busy; bustling.

Two young men appeared notable in strength, excellent in beauty, and comely in apparel. *2 Mac.*

The success of those wars was too notable to be unknown to your ears; which, it seems, all worthy fame had glory to come unto.

Sidney.

Herein doth the endless mercy of God notably appear, that he vouchsafeth to accept of our repentance, when we repent, though not in particular as we ought to do.

Perkins.

The same is notified in the notablest places of the diocess.

Whitegift.

This we see notably proved, in that the oft polling of hedges conduces much to their lasting.

Bacon's Natural History.

At Kilkenny many notable laws were enacted, which shew, for the law doth best discover enormities, how much the English colonies were corrupted.

Davies.

It is a rare soul that hath not some notable disease; only crosses are thy remedies.

Bp. Hall.

Both armies lay still, without any notable action, for the space of ten days.

Clarendon.

It is impossible but a man must have first passed this notable stage, and got his conscience thoroughly debauched and hardened, before he can arrive to the height of sin.

South.

Varro's aviary is still so famous that it is reckoned for one of those notables which foreign nations record.

Addison.

Mention Spain or Poland, and he talks very notably; but, if you go out of the gazette, you drop him.

Id.

This absolute monarch was as notable a guardian of the fortunes, as of the lives of his subjects. When any man grew rich, to keep him from being dangerous to the state, he sent for all his goods.

Id. Freeholder.

NOTE, signs used in writing, which have the force of many letters. This contrivance for expedition is of great antiquity. It was known to the Greeks, and from them derived to the Romans. By whom the invention was brought into Rome is not precisely ascertained; but the most general opinion is, that in matters of importance Tully first made use of notes or short-hand writing, when Cato made an oration in order to oppose Julius Cæsar, relative to the conspiracy of Catiline. Cicero, who was at that time consul, placed notarii, or expert short-hand writers, in different parts of the senate-house, to take down the speech; and this was the first public occasion which we find recorded of employing short-hand writers among the Romans. Hence was derived the term notary still in use. There were three kinds of notes for short-hand writing used

by the ancients, either for despatch or secrecy. The first and most ancient was that of hieroglyphics, which are rather images or representations of things than of words. See HIEROGLYPHICS. The Chinese characters are of this kind, and may with greater propriety be called notæ than literæ. The second species of notes were called singulariæ, from their expressing words by single letters. Sertorius Ursatus has compiled a very copious collection of such abbreviations, of which work there are several editions. The third kind of notes were called notæ Tironianæ, from Tiro, the freedman of Cicero, who was excellently skilled in this art; and to him we are indebted for the preservation of Cicero's letters, of which a great part still remain, and one entire book of them written to Tiro himself. We have but few books remaining that are written in short-hand; but this is not surprising, when such was the unhappy situation of early ages that either superstition condemned them to the flames as the works of impious magicians or necromancers, or they were left to be devoured by vermin, through ignorance. In 1747 the learned and ingenious M. Carpentier engraved and published at Paris a capitulary and fifty-four charters of Louis the Pious, emperor and king of France, written in these notæ Tironianæ. To this work the learned editor hath prefixed an Alphabetum Tironianum, together with a great number of notes for the different parts of speech, and rules for acquiring the art of writing in these kinds of notes. Valerius Probus, in his book De Literis Antiquis, explains many of the characters used by the short-hand writers; and there is a dictionary of them set forth by Janus Gruterus. See STENOGRAPHY.

NOTARII, persons employed by the ancient Romans to take, by notæ, trials and pleadings in their courts of judicature, or to write as amanuenses from the mouth of an author. Under the reign of Justinian they were formed into a college or corporate body. Notarii were also appointed to attend the prefects, to transcribe for them. There were likewise notarii domestici, who were employed in keeping the accounts of the Roman nobility; and, when the empire became Christian, there were notaries for ecclesiastical affairs, who attested the acts of archbishops, bishops, and other spiritual dignitaries. We find ecclesiastical notaries at Rome under Pope Julius IV. and in the church of Antioch about A. D. 370. From these notaries are derived the office of chancellor to the bishops. Afterwards almost every advocate was admitted a notary.

NOTARIAL, *adj.* } Fr. *notaire*; Lat. *notarius*. Taken by a notary, who is an officer qualified or appointed to make notes or record of any thing important to the public: notation is the act or practice of recording things by notes or figures.

There is a declaration made to have that very book, and no other set abroad, wherein their present authorised notaries do write those things fully and only, which being written, and there read, are by their own open testimony acknowledged to be their own. Hooker.

Go with me to a notary, seal me there
Your bond. Shakspeare. Merchant of Venice.

A NOTARY is usually a scrivener who frames short draughts of contracts, obligations, charterparties, or other writings. We call him a notary public who publicly attests deeds or writings, in order to make them authentic in another nation; but he is principally employed in business concerning merchants; as making protests of bills of exchange, &c. And noting a bill is where he goes to take note of a merchant's refusal to accept or pay the same. Stat. 41 G. 3. (U. K.) c. 79, was passed for regulating public notaries in England. By this act no person shall act as a notary unless duly admitted, nor shall he be admitted as a notary unless he shall have served seven years' apprenticeship to a notary on penalty of £50. Notaries shall not permit unqualified persons to act in their names.

NOTATION, in arithmetic, is the method of expressing, by means of certain signs, any proposed number or quantity. In the modern analysis, notation implies a method of representing any operation belonging to this science; and the judicious and ingenious selection of proper symbols forms not the least important part of it. The success of a great mathematical operation depends much upon this point, and the science itself has sometimes made a new advance by the invention of new and more manageable symbols. In the common scale of notation, every number is expressed by the ten characters 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, the nine first of which represent different numbers of units, and denote various values, according to the place which they occupy, and according to the following scheme:

&c.	Tens of Millions
.	Millions
.	Hundreds of Thousands
.	Tens of Thousands
.	Thousands
.	Hundreds
.	Tens
.	Units

so that, beginning at the right, a character standing in the first place signifies units; in the second tens; and so on; so that each character signifies ten times more, according as it stands a place farther to the left. If 7 stands in the place of the units, it signifies 7 units; if it stands in the place of the ten-thousands, it signifies 7 times ten thousand. To determine the place of a character, zeros are made to the right of it: thus, to express seventy thousand, we write 70,000, which shows that 7 stands in the fifth place, which is that of the ten-thousands. The system proceeds still farther: if we have to express seventy thousand one hundred and thirty-four, we do not write 70,000, and 100, and 30, and 4, but 70,134. Place the above numbers one under the other, and the reason is obvious:

70,000
100
30
4

It appears that it is unnecessary to retain three of the zeros to the right of 70,000, the two zeros to the right of 100, and the zero to the right of 30, because, if we leave them out, thus,

70

1

3

4

and write the remaining figures all in one line, thus, 70,134, each character will have the same place as it had when each number was written out full, and therefore will have its due value. In order to give a number its proper position, a zero is written wherever no number is to be expressed in one of the other places, as in the above case, the zero to the right of 7, without which the 7 would have denoted seven thousands, not seventy thousands. This is the system of notation of whole numbers, and the mode of expressing fractions differs only in this, that they are numbered from left to right.

Thousands
 Hundreds
 Tens
 Units
 Tenths
 Hundredths
 Thousandths
 Ten-Thousandths
 &c.

(See *Decimal Fractions*.) The decimal system, so simple and perfect, is one of the most striking of human inventions, and few things have had a greater influence upon the progress of science and civilization. Little do we dream of the enormous difficulty of calculations with the Roman and Greek notation, and the obstacles which it must have thrown in the way of every art, science, or occupation, requiring arithmetical operations. The commerce or the navigation of the present day could hardly have been carried on under such systems; and the general habit of keeping regular accounts, which so greatly facilitates the business of life, and tends so much to preserve the good order and peace of society, could hardly have grown up. The origin of this invention, as of many which have exerted the greatest influence on society, is veiled in obscurity. (For a few historical remarks on the introduction of ciphers, see the article *Ciphers*.) As in our decimal system every possible number is expressed by ten characters, so we can imagine a *dyadic* or *binarian* system, of which two is the fundamental number, and which, to express analogously every possible number, would require but two characters (say 1 and 0), one being represented by 1, two by 10, three by 11, four by 100, five by 101, six by 110, seven by 111, eight by 1000, nine by 1001, and so on. Leibnitz first developed such a system in his *Dyadics*. In the same way we can compose systems of three, four, or any given number of characters; and as 12 is a more convenient number for division and subdivision, we knew a German professor of mathematics, who, having invented for himself two more characters for 11 and 12, and given them names, made a *dodecadic* system, by which he performed the most rapid calculations:

12 was the basis of his system, as 10 is of ours, and each character signified 12 times more than its neighbour to the right, and 12 times less than its neighbour to the left: thus, suppose he used for 10, the character X, and for 11 T, then his series would be thus:

1—1	13—11
2—2	14—12
3—3	15—13
4—4	16—14
5—5	17—15
6—6	18—16
7—7	19—17
8—8	20—18
9—9	21—19
10—X	22—1X
11—T	23—1T
12—10	24—20

so that 100 expresses, in this system, what we should represent by, 144. We have dwelt on this point, because it seems to us that the practice of making experiments of this sort would serve to show pupils, more clearly, the nature and character of our system of numeration, the great and sole advantage of which lies in the system, not in the number which serves as its basis. Several tribes have not advanced beyond the rude system of adding successively one to one, and giving a new and arbitrary name to each new number; but for this reason they cannot count far, and, after going beyond a certain number, they generally say *many*. The Romans, though they had the decimal numeral system, nevertheless had not the decimal notation. In their notation, they took five units together, and wrote them thus V; then they brought two such fives together, from which originated V or X; five tens they wrote L; one hundred was written C, the initial of *centum*; five hundreds were expressed by the sign D; two five-hundreds, or one thousand, by M. (See *M*.) A cipher written to the left of another of higher value, in this system, takes so much from its amount, as XL is 40, and XC is 90; accordingly 1847 is written MDCCCXLVII. Here no sign has a value according to its position (except in some degree, X; but it is not the value of X which is changed, but merely its character; it becomes negative by standing to the left of L), and pronouncing such a number is making an addition. It is utterly impossible for us to imagine the difficulty of their calculations, because, if we take a case of simple addition, as,

M
 XLVIII
 DV
 CCIX
 XXXVIII
 XCII

it would be comparatively difficult for us to perform it, although the numbers form themselves in our mind, not according to these signs, but according to our decimal representation, and thus we can perform the operation much easier than they could. They, therefore, were obliged to have recourse to their *abacus*. (q. v.) We may

add, that 500 was represented by ΙΩ, as well as by D, and that for every Δ added, this number became increased ten-fold; 1000 was also expressed by CΙΩ, as well as by M; and for every CΩ added, one at each end, the number was increased ten-fold. A horizontal line drawn over any figure, increases it a thousand-fold.

Notation of the Greeks. These people had three distinct notations, the most simple of which was, the making the letters of their alphabet the representatives of numbers: α, 1; β, 2; γ, 3; and so on. Another method was by means of six capital letters, thus, Ι (α for μᾶ), 1; Π (πεντε), 5; Δ (δεκα), 10; Η (εκατον), 100; Χ (χιλια), 1000; Μ (μυριας), 10,000; and when the letter Π enclosed any of these, except Ι, it indicated the enclosed letter to be five times its proper value, as stated above; thus,

[Δ] represented 50; [Η] 500; [Χ] 5,000;

and so on. This notation was only used to represent dates and similar cases: for arithmetical purposes they had a more organized system, in which 36 characters were employed; and by these, any number not exceeding 100,000,000, might be expressed, though, in the first instance, it appears that 10,000, or a myriad, was the extent of their arithmetic.

Our digits,	1, 2, 3, 4, 5, 6, 7, 8, 9,
they expressed by	α, β, γ, δ, ε, ς, ζ, η, θ.
For our tens, as,	10, 20, 30, 40, 50, 60, 70, &c.
they employed	ι, κ, λ, μ, ν, ξ, ο, &c.
for hundreds	ρ, σ, τ, υ, φ, χ, ψ, &c.
for thousands	α, β, γ, δ, ε, ς, ζ, &c.

that is, they had recourse again to the characters of the simple units, which were distinguished by a small iota or dash placed below them; and, with these characters, a number under 10,000 was readily expressed; and this, as we have observed above, was for some time the limit of their arithmetic. Afterwards 10,000, or a myriad, was represented by Μ, and any number of myriads by Μ placed under the number of them. Thus,

α	β	γ
Μ.	Μ.	Μ.

represented 10,000 20,000 30,000, &c.

The *Notation of the Hebrews* resembled, in a great measure, that of the Greeks above described, only substituting Hebrew letters for Greek, as far as thousands; and, for representing thousands, they had again recourse to their simple units, distinguishing them only by two dots, or acute accents; thus, כ̇, or כ̇, expressed 1,000; כ̇, 2,000; כ̇, 10,000; and so on. (For the Egyptian system of notation, see *Hieroglyphics*.)

NOTCH, n. s. & v. a. Ital. *nocchia*; Swed. *nocha*. See **NICK**. A nick or hollow cut; to cut in nicks or nitches.

NOTCH, THE, a picturesque pass of the United States, in the western part of the White Mountains, New Hampshire. The narrowest part is between two perpendicular rocks, and is only twenty-two feet wide. The road from Lancaster to Portland passes through this notch.

NOTE, n. s. & v. a. Fr. *note*; Lat. *nota*.
NOTEBOOK, n. s. } A token; mark; sign;
NOTED, adj. } symbol; memorandum;
NOTER, n. s. } account; short letter;

notice; observation; reproach; mark of a sound in music; tune: to note, is to observe; remark; heed; also to set down; hence to charge with crime; to prick musical signs: the derivatives seem plain in their meaning.

In the body's prison so she lies,

As through the body's windows she must look,

Her divers powers of sense to exercise,

By gathering notes out of the world's great book.

Davies.

Divers men of note have been brought into England.

Abbot.

Some things may in passing be fitly noted.

Hammond.

The wakeful bird tunes her nocturnal note.

Milton.

NOTHING, n. s. } No and thing. Scotch
NOTHINGNESS. } *nothing* Not any thing; nonexistence; universal negation; no particular thing; no quantity or degree; no importance or value; a trifle: it has a very general adverbial signification: nothingness is nihility; state of being nothing.

His art did express

A quiescence even from nothingness,

From dull privations, and lean emptiness.

Donne.

Narcissus is the glory of his race;

For who does nothing with a better grace?

Young.

He who hath bent him o'er the dead,

Ere the first day of death is fled;

The first dark day of nothingness,

The last of danger and distress;

Before Decay's effacing fingers

Have swept the lines where beauty lingers.

Byron.

NOTICE, n. s. Fr. *notice*; Lat. *notitia*. Remark; observation; note; information; intelligence.

The thing to be regarded in taking notice of a child's miscarriage is, what root it springs from.

Locke.

How ready is envy to mingle with the notices which we take of other persons!

Watts.

NOTIFICATION, n. Fr. *notification*; Fr. **NOTIFIER, v. a.** } *notifier*; Lat. *notifico*.

To notify is to make memorable; hence to make known; declare; publish: notification, the act of representing or making known by marks or notes.

This sense of all things *notifying* the Messias seems to be the only particular which in general the Jews did not, or would not, see and acknowledge.

Barrow.

This solar month is by civil sanction notified in authentic calendars the chief measure of the year; a kind of standard by which we measure time.

Holder.

NOTION, n. s. } Fr. *notion*; Lat. *notio*.
NOTIONAL, adj. } Thought; idea; image;
NOTIONALITY, n. s. } mental representation;
NOTIONALLY, adv. } conception; opinion;
 sense: notional is, ideal; intellectual; and hence merely ideal; visionary: notionality, emptiness; unfounded opinion, notionally follows all the senses of notional.

The general and indefinite contemplation and notions, of the elements and their conjugations, of the influences of heaven, are to be set aside, being but *notional* and illimitated; and definite axioms are to be drawn out of measured instances.

Bacon.

God hath bid dwell far off all anxious cares,
And not molest us ; unless we ourselves
Seek them with wandering thoughts and notions vain.

Milton.

So told, as earthly *notion* can receive. *Id.*
The most forward *notional* dictators sit down in a
contented ignorance. *Glanville's Sccepsis.*

I aimed at the advance of science, by discrediting
empty and talkative *notionality*. *Glanville.*

Seeing we are at this time to speak of the proper
notion of the church, therefore I shall not look upon
it as comprehending any more than the sons of men.

Pearson.

The fiction of some beings which are not in nature,
second *notions*, as the logicians call them, has been
founded on the conjunction of two natures, which
have a real separate being. *Dryden.*

The whole rational nature of man consists of two
faculties, understanding and will, whether really or
notionally distinct, I shall not dispute.

Norris's Miscellany.

Many actions are punished by law, that are acts
of ingratitude ; but this is merely accidental to
them, as they are such acts ; for if they were punished
properly under that *notion*, and upon that account,
the punishment would equally reach all actions of the
same kind. *South.*

It would be incredible to a man who has never
been in France, should one relate the extravagant
notion they entertain of themselves, and the mean
opinion they have of their neighbours. *Addison.*

Happiness object of that waking dream

Which we call life, mistaking : fugitive theme

Of my pursuing verse, ideal shade,

Notional good, by fancy only made. *Prior.*

What hath been generally agreed on, I content
myself to assume under the *notion* of principles, in
order to what I have farther to write. *Newton.*

Sensual wits they were, who, it is probable, took
pleasure in ridiculing the *notion* of a life to come.

Atterbury.

We must be wary, lest we ascribe any real sub-
sistence or personality to this nature or chance ; for
it is merely a *notional* and imaginary thing ; an ab-
stract universal, which is properly nothing ; a con-
ception of our own making, occasioned by our re-
flecting upon the settled course of things ; denoting
only thus much, that all those bodies move and act
according to their essential properties, without any
consciousness or intention of so doing. *Bentley.*

There is nothing made a more common subject of
discourse than nature and its laws ; and yet few
agree in their *notions* about these words.

Cheyne's Philosophical Principles.

That *notion* of hunger, cold, sound, colour, thought,
wish, or fear, which is in the mind, is called the
idea of hunger, cold, sound, wish, &c.

Watts's Logick.

Let us not amuse ourselves with vain *notions*, that
our greatness and our happiness, as a nation, are ca-
pable of being separated. It is no such thing.

Canning.

NOTO, a considerable town in the Val Di
Noto, Sicily, is delightfully situated on an emi-
nence, and of considerable antiquity ; but the
site of the present town is some miles from that
of the ancient Noto, which was destroyed in
1698 by an earthquake. Several of its numerous
churches and convents are in the Grecian style,
and elegantly built. The other public buildings
are an hospital, a seminary for education, and a
Monte di Pietà, or pawn bank. The traveller,
however, will be most engaged with the museum
of Greco-Siculo medallions, the total number

of which, including a collection of Grecian,
Roman, and Saracenic coins, is about 6000. The
trade of Noto is in wine, oil, and corn, the pro-
duce of the adjacent fertile country. Fifteen
miles south-west of Syracuse, and forty south of
Catania.

NOTO, VAL DI, one of the three provinces of
Sicily, forming the south-east portion of that
island. Its length from east to west is seventy
miles ; its breadth about fifty. It forms in ex-
tent about a third of the island, and comprises
the portion first peopled and most celebrated in
ancient history : its surface is diversified by a
range of mountains extending from north-west
to south-east, and terminated in the latter by a
shorter range, from north-east to south-west.
Even these elevated tracts afford fine pasturage :
the other products are olives, wine, honey, wax,
almonds, and fruits. The fisheries on the coast
are large, and the climate remarkably salubrious.
Catania is the largest town, and stands at the
north-east angle of the province ; the others are
Syracuse, Augusta, Modica, Calatagirone, Len-
tini, Carlentini, and Noto. Population 460,000.

NOTONECTA, the boat-fly, a genus of in-
sects belonging to the order of hemiptera. The
rostrum is inflected ; the antennæ are shorter
than the thorax ; the four wings, which are
coriaceous from their base to their middle, are
folded together cross-wise ; the hind feet are
hairy, and formed for swimming. To which
may be added that the tarsi are composed of
two articulations, and all the six feet are equally
formed for swimming. The abdomen terminated
by four little horns or appendices. There are
many species, of which nine are common in
Europe.

N. glauca is thus described by Barbut : ' This
insect has a head somewhat round, of which the
eyes seem to take up the greatest part. Those
eyes are brown, and very large, the rest of the
head being yellow. In the fore part it has a
sharp trunk that projects, and is inflected be-
tween the fore feet. On the sides are seen the
antennæ, very small, yellowish, and that spring
from under the head. The thorax, which is
broad, short, and smooth, is yellow on the fore,
and black on the back part. The escutcheon is
large, of a rough black, and covered with a short
nap. The elytra, rather large, and crossed over
each other, are a mixture of brown and yellow,
not unlike the color of rust, which makes it look
cloudy. The under part of the body is brown ;
and at the extremity of the abdomen are to be
seen a few hairs. The feet, six in number, are
of a light brown, the two hindmost having on
the leg and tarsus hairs that give them the shape
of fins ; nor are they terminated by nails. The
four anterior ones are somewhat flat, and serve
the animal to swim with ; but at their extremity
they have nails and no hairs. This insect is seen
in stagnant waters, where it swims on its back,
and presents its abdomen upwards ; for which
reason it has been called by the Greek name of
notonecta. The hinder feet, longer than the rest,
serves it as paddles. It is very nimble, and
dives down when you go to take hold of it ;
after which it rises again to the surface of the
water. It must be cautiously handled if one

would avoid being pricked by it; for the point of its rostrum is exceedingly sharp. The larva very much resembles the perfect insect. Its legs are long; when taken out of the water it hops: it is very common in ponds. It is of a very particular form, being flattish at the belly, and rising to a ridge on the middle of the back; so that when it swims its body has much the resemblance of a boat in figure, whence its vulgar name. It is eight lines long, two broad, and two and a half thick. The belly is jointed, striated, and hairy. Nature has provided it with an offensive weapon resembling a sting, which it thrusts out when hurt from a large opening at the tail. The head is large and hard. The eyes are of nearly a triangular form. The nose is a long, green, hollow proboscis, ending in a hard and sharp point, which, in its natural posture, remains under the belly, and reaches to the middle pair of legs. The outer pair of its wings are of a pale flesh-color, with spots of a dead white; these are long, narrow, and somewhat transparent: they terminate in a roundish point, and perfectly cover the whole body. The triangular piece which stands between the top of the wings is hard, and perfectly black; the inner wings are broader and shorter than the outer; they are thin and perfectly transparent, and are of a pale pearl color. The hinder pair being much longer than all the rest, they serve as oars; and nature has tufted them with hair at the end for that purpose. This creature mostly lives in the water, where it preys on small insects, killing them and sucking their juices with its proboscis in the manner of the water scorpion and many other aquatic insects; and it seizes its prey violently, and darts with incredible swiftness to a considerable distance after it. Though it generally lives in the water, it sometimes crawls out in good weather; and drying its wings, by expanding them in the sun, takes flight, and becomes an inhabitant of the air, not to be known for the same creature unless to those who had accurately observed it before; when tired of flying, or pursued by an enemy, it immediately plunges into the water.

NOTORIETY, *n. s.* } Fr. *notoriété*, *noto-*
 NOTORIOUS, *adj.* } *rié*; Latin *notorius*.
 NOTORIOUSLY, *adv.* } Fame; public notice
 NOTORIOUSNESS, *n. s.* } or knowledge; experience; generally used in a low or bad sense, as of things disadvantageously known. The derivatives follow this meaning.

What need you make such ado in cloaking a matter too *notorius*? *Whitgift.*

The goodness of your intercepted packets
 You write to the pope against the king; your goodness,
 Since you provoke me, shall be most *notorious*.
Shakspeare.

I shall have law in Ephesus,
 To your *notorious* shame. *Id.*

In the time of king Edward III., the impediments of the conquest of Ireland are *notorious*. *Davies.*

This presbyterian man of war congratulates a certain *notorious* murder, committed by a zealot of his own devotion. *White.*

These things, I say, are all either *notorious* and evident, or expressly affirmed in Scripture.

Jer. Taylor.

The exposing himself *notoriously*, did sometimes change the fortune of the day. *Clarendon.*

This is *notoriously* discoverable in some differences of brake or fern. *Brounne's Vulgar Errors.*

We think not fit to condemn the most *notorious* malefactor before he hath had licence to propose his plea. *Fell.*

What *notorious* vice is there that doth not blemish a man's reputation? *Tillotson.*

Ovid tells us, that the cause was *notoriously* known at Rome, though it be left so obscure to after-ages. *Dryden.*

We see what a multitude of pagan testimonies may be produced for all those remarkable passages; and indeed of several, that more than answer your expectation, as they were not subjects in their own nature so exposed to public *notoriety*. *Addison.*

The inhabitants of Naples have been always very *notorious* for leading a life of laziness and pleasure, which arises partly out of the temper of their country, and partly out of the temper of their climate. *Id. on Italy.*

The bishops have procured some small advancement of rents; although it be *notorious* that they do not receive the third penny of the real value. *Swift's Miscellanies.*

Should the genius of a nation be more fixed in government, than in morals, learning, and complexion; which do all *notoriously* vary in every age. *Swift.*

A man guilty of breaking these, though he cannot be transported for a felon, or indicted for treasonable practices, is yet, in the high court of custom, branded as a flagrant offender against decorum, as *notorious* for an unprecedented infringement on propriety. *Canning.*

NOTT (John), M. D., a late polite writer, was born at Worcester, December 24th, 1751. Having studied surgery, under Sir Caesar Hawkins, he visited Paris in order to complete his medical education, and subsequently went to China, as surgeon to an East Indiaman. Here he acquired an extensive acquaintance with the Persian language; his proficiency in which he evinced on his return to Europe by his elegant translation of the Odes of Hafiz. In 1788 he took his diploma, and soon after attended the duchess of Devonshire to the continent. In 1793 he settled at Bristol, where he continued to reside till his death in 1826, being afflicted, during the last eight years of his life, with paralysis. His writings are, *Alonzo, a Poetic Tale*, 4to. 1772; a translation of the *Basia* of Johannes Secundus, 8vo., 1775; *Leonora, an Elegy*, 4to., 1775; *Poems from the Italian of Petrarch*, 8vo., 1777; *Original Pieces and Translations*, 8vo., 1780; *Heroic Epistle from Monsieur Vestris in London to Madame Heinel in France*, 4to., 1781; *the Cynthia of Propertius*, 8vo., 1791; *Chemical Dissertation on the Springs of Pisa and Asciano*, 8vo., 1793; *On the Hot-wells of Bristol*, 8vo., 1793; an edition of *Catullus*, with the Latin text rendered into English verse, and classical notes, 2 vols. 8vo., 1794; a translation of the *Kisses of Bonifonius of Auvergne*, with the Latin text annexed, 8vo., 1797; another of *The First Book of Lucretius*, with the Latin text, 8vo., 1799; *The Odes of Horace*, with the Latin text revised, 8vo., 2 vols., 1803; *Sappho*, after a Greek Romance, 12mo., 1803; *On the Influenza* which prevailed at Bristol in 1803, 8vo., 1803; a far-

ther Selection from Petrarch, with notes, 8vo., 1808; select poems from the Hesperides of Herrick, 8vo., 1810; A Nosological Companion to the London Pharmacopœia, 12mo., 1811; and an edition of Decker's Gull's Horn Book, with notes and illustrations, 4to., 1812; besides several MS. works, among which is an incomplete translation of Silius Italicus.

NOTTINGHAM, a market and borough town of England, the county town of Nottinghamshire, stands in a delightful situation, and in what is considered a healthy neighbourhood, on the steep ascent of a hill or rock, overlooking a fine range of meadows; a little rivulet running on the north side of them, almost close to the town; and the noble river Trent, parallel with both, on the south side of the meadows. Over the Trent is a stately stone bridge of nineteen arches, the river here being sixty-six yards wide, having received the waters of the Dove, the Derwent, the Erwash, and the Soar.

The rock on which the town stands is of a sandy kind, and so soft that it is hewed into vaults and cellars, sometimes in tiers of two or three stories; the stairs which lead to them being also cut out of the rock to the extent of eighty or 100 steps. From these caves and cellars being famous as a retreat, the town is said to have first taken its name, Snottengsham; the British word, as Camden observes, was Tui-ogo-bauc, which also signifies a house of dens or secret caves.

The town, which though partaking of the irregular character of its site has several broad and well paved streets, is divided into three parishes, St. Mary's, St. Peter's, and St. Nicholas's; of these the first is the largest, including much the greater part of it; but each has a handsome Gothic church. St. Mary's is of a cathedral structure, but the uniformity of the building has been spoiled by taking down the west front, and substituting a new one of the Doric order: the organ of this church is exceedingly fine, supported by four columns of the Ionic order, and in the tower is a peal of ten good bells. The altar-piece of St. Peter's is finely adorned with paintings, and at the west end is a lofty spire with eight bells. St. Nicholas's, although small, is an exceedingly neat structure, being built of brick faced with stone. St. James's church was erected, in 1808, for the accommodation, it is said, of the Calvinistic party in the church: the three first presentations being in the subscribers. On Standard Hill four new streets have also been recently built.

The town-hall is a noble edifice, supported by pillars of the Tuscan order; of the former building it is recorded that, in the reign of George I., Powis, one of the justices of the king's bench, being here on the assizes, was delivering his charge to the grand jury in the crown room, when one of the beams supporting the room gave way, and all the people ran in confusion out of the court, leaving Mr. justice Powis upon the bench, calling out after them—'Is there nobody will take care of the judge?' for he was so aged and infirm that he could hardly walk. Finding himself neglected, he made shift to descend from the bench, and hobble out at the door, and as soon as he found himself in safety ordered the

town to be fined in a considerable sum for not keeping the hall in proper repair. From this circumstance, and an absolute rule from the king's bench which followed, the inhabitants were under the necessity of erecting the present structure.

South-west of the town there is a steep rock, the south face of which, under which runs the river Lerne, is an inaccessible precipice. On this part of the rock stood a castle or tower which the Danes obstinately defended against king Alfred and his brother Ethelred. This castle was rebuilt by William the Conqueror, or, as other accounts state, by his natural son William Peverel, to keep the English in awe, and was so strong by nature and by art as to bid defiance to any force which at that time could be brought against it. It was afterwards greatly enlarged and strengthened by Edward IV. His perfidious brother, who, after murdering his nephew, placed himself on the throne by the style and title of Richard III., made round windows of timber, above those of stone, and finished all the rest. In the civil war that followed it was once in vain besieged by Henry of Anjou, at which time the garrison burnt down the adjoining houses; and it was once taken by surprise in the barons' wars, by Robert, earl of Ferrers, who also plundered the town or city. But this castle was never taken by storm. It became a garrison for the parliament in Charles I.'s time, who, at the end of the war, gave orders to pull it down.

After the restoration Villiers, second duke of Buckingham, claimed the castle, in right of his mother, and then sold it to William Cavendish, marquis and afterwards duke of Newcastle; who, notwithstanding he was eighty-two years old, cleared away, in the year 1674, the foundation of the old castle, and lived to see the present fabric raised above ground. It was finished in 1679, at the cost, it is said, of £14,002 17s. 11d. The building is on a rustic basement, which supports in front a Corinthian order, with a double staircase landing at the grand apartment. Over the door of the north-east front is placed an equestrian statue of the founder, with the face to the north, carved out of one single block of stone brought from Donnington in Leicestershire. The whole building is surrounded by a handsome terrace, which commands a fine prospect along the Trent, and has long been a favorite promenade. The apartments were once very superior, but have been long neglected, as the castle is no longer the seat of the noble owner, but is partly in private occupancy. In the old castle David king of Scots was confined a prisoner; and also the celebrated Roger Mortimer, earl of March, who was seized here by Edward III. and his friends, entering through a secret passage, still called Mortimer's hole. Behind the castle is the park, of 130 acres, used for pasture and gardens: from various parts of it the prospects are rich, beautiful, and picturesque. It contains some curious caves; and at the upper end of it, adjoining the Derby road, are the barracks, a spacious range of brick buildings, erected by government in 1793, in an open and airy situation.

The town of Nottingham is one of the twelve where the king's guineas are run for, besides other

money and plate; the races are in July. The course, which was formerly four miles round, is at this time but two, and is one of the best in England, being never out of order for running.

Nottingham has long been one of the principal seats of the stocking manufacture. The goods made are chiefly of the finer kinds, as those of silk and cotton; and the trade is extended to the neighbourhood round, and some of the more distant towns. 10,000 frames have commonly been at work here in this business. The spinning of silk and cotton has also been largely introduced into the neighbourhood, as well as the manufacture of lace. There is also a manufacture of coarse earthenware, and the malting and tanning business is considerable, but not so much so as formerly. The inland navigation has of late much promoted a general trade in provisions, groceries, &c., with which Nottingham largely supplies the neighbouring country. The supply of coal is also ample from the same circumstance; but it is said to be singularly high in price.

In the reign of king John, a charter was granted wherein all persons within ten miles round Nottingham are forbidden to work dyed cloth but in the borough. This manufacture continued in a prosperous state till the reign of queen Mary; then it gradually went off, till at last it entirely left this place. The tanners were once so numerous that the masters of this trade were, in the year 1641, thirty-six in number; and in 1664 forty-seven.

The market-place is at the west end of the town, and is in spaciousness superior to most in the kingdom. The market days are on Wednesdays, Fridays, and Saturdays. At the east end is the new exchange, 123 feet long and nearly as wide.

Among other amusements, such as the races (which commence on the first Thursday in August, and continue three days), a respectable company of comedians have a theatre here, and perform about three months in the year; and in the exchange and low pavement rooms frequent assemblies are held.

The public charities of Nottingham are numerous, and many of them on an extensive scale. The principal are Plumtre's, Collin's, and the Lumbley hospital. The workhouses are also very commodious and well conducted. Of the other benevolent institutions, the most important is the general infirmary, an excellent institution, founded in 1781, which has proved of the greatest benefit in relieving the distresses of the people. The building consists of an elegant and spacious centre, with two advanced wings, and two ends, to which considerable additions have recently been made, through the benevolence of an unknown donor of £20,000, three per cent. consols. It stands in an airy situation, surrounded with beautiful walks; and its internal arrangements are excellent. The lunatic asylum, both for paupers and those who can pay, is also on a large scale. It is among the first completed under the late act of parliament, and was opened in 1812.

Nottingham has a free grammar school, which was founded by one Agnes Mellers, a widow,

often called lady Mellers, the widow of Richard Mellers, a wealthy bell-founder of this town; she obtained a license for it, for one master and one usher in the parish of St. Mary, bearing date November 22d, the fourth year of king Henry VIII., A. D. 1513. Here are likewise a charity-school, maintained by voluntary contributions, for the instruction of fifty poor children; a school in St. Mary's parish where thirty poor children are instructed; and various similar institutions. The places of worship for the dissenters are numerous and well attended.

The town is a county of itself, governed by a mayor, six aldermen, a recorder, two sheriffs, and twenty-four common council-men, two coroners, and two chamberlains, with a town clerk and other inferior officers; their privileges are very extensive, and the magistrates are always dressed in scarlet on public occasions. It sends two members to parliament; the returning officers are the sheriffs. Nottingham is 124½ miles from London.

NOTTINGHAM, a post town of Rockingham county, New Hampshire. 2. Of Hillsborough county, same state. 3. Of Burlington county, New Jersey. 4. Of Chester county, Pennsylvania. 5. Of Prince George county, Maryland.

NOTTINGHAMSHIRE. The county town, whence is derived the name of the county itself, comes from a Saxon word, signifying 'a place abounding with caverns,' several such being found in that vicinity. Nottinghamshire was anciently inhabited by the Coritani. After the subjection of the island, the Romans included it in the province named Flavia Cæsariensis. During the Saxon heptarchy it belonged to the kingdom of Mercia. This is an inland county, situated between 52° 50' and 53° 34' N. lat. It is bounded on the west by Derbyshire, on the north by Yorkshire, on the east by Lincolnshire, and on the south by Leicestershire. It is about fifty miles in length, and twenty-six in breadth; and contains 496,540 acres, or 776 square miles. This county is divided into six wapentakes or hundreds; three of them south of the Trent, viz. Rushcliff, Bingham, and Newark hundreds; and three north of the trent, viz. Bassetlaw, subdivided into north and south, Clay, and Hatfield divisions (which make it equal to three hundreds), Braxtow hundred, and Thurgarton-a-Leigh. In the usual divisions of this shire Bassetlaw and Newark are equal to the other four wapentakes, the town of Nottingham being left out. There are nine market towns, and 450 villages. The county is included in the midland circuit, and in the province and diocese of York.

Lowe, in the Agricultural Survey, says, that from his own observation and that of many experienced persons he had consulted, he had reason to conclude much less rain falls in this county than in the neighbouring ones to the north and to the west. The greatest rains are observed to come with the easterly winds.—The soil and surface are thus delineated. Except the level through which the Trent runs, the surface is uneven, and may perhaps be said to be hilly, though none of the hills rise to any considerable degree of elevation. The soil may be divided into the three districts of sand or gravel, clay and lime-

stone, and coal land. The sand or gravel may again be divided into the Forest Country, or the borders of it; the Trent Bank Country; and the tongue of land, east of the Trent, running into Lincolnshire. The forest district, consisting of the ancient forest, and the borders of it, of the same kind of soil, is in length about thirty miles, and in breadth from seven to ten, more or less in different places. Mr. Lowe considers as Trent Bank Land the level ground accompanying the Trent, from its entrance into the county down to or a little below Sutton-upon-Trent, where the clay soil comes down to the river on the west side; and on the east a poorer sand runs in a tongued-shape into Lincolnshire. The same writer includes in it likewise the level grounds running up the river Soar, from its junction with the Trent up to Rempston, as the townships of Ratcliff-upon-Soar, Kingston, Sutton Bonington, Normanton, and Stanford, and those lying on the back of them; as east and west Leak, Cortlingstock, and Rempston, which, though on higher ground, are much lower than the Wouds, and of a good mixed loam, convertible and equally fit for tillage or pasture; now let, Mr. Lowe says, at less than 20s. an acre throughout, taking upland and meadow together; as well as the strip of higher land, on which are the townships of East Bridgeford, Kneeton, Flintham, and Stoke, which, though above the level of the rest, are of a mellow mixed soil, different from the clay of Belvoir, adjoining. This level is in general of a mellow soil or vegetable mould on sand or gravel, though in some places these rise to the surface. It is of different breadths; in some places not above a mile and a half; in others, three, four, and five miles wide, and is mostly enclosed. The tongue of land east of the Trent is of a sandy soil, in some parts rather better than others, but in general very poor. The clay district may be thus divided: 1st. The clay north of the Trent, consisting of the north and south divisions, and the hundred of Thurgarton. 2dly, South of the Trent, comprehending the Vale of Belvoir and the Wouds. The clays north of the Trent are in general not so tenacious a nature as in many counties, being more friable from containing a portion of sand, and falling more readily by the weather, particularly the red clay, of which there is a great deal in the country round Tuxford, and in the hundred of Thurgarton, which might perhaps be more properly called a clayey loam; and a blackish clay soil, commonly called a woodland soil, in which there is plainly a mixture of sand. The vale of Belvoir, having no precise boundaries as to soil, may nevertheless be said to include the district lying between the hills called the Nottinghamshire Wouds, and the strip of land running along the Trent, on which stand East Bridgeford, Kneeton, Flintham, and Stoke; which, as has been observed, though not on the same level with the rest of the Trent bank land, has the same kind of mellow low mixed soil. The Nottinghamshire Wouds are a range of high bleak country, the soil being generally a cold clay. The lime and coal districts may be defined to lie to the west of a line drawn from the river at Shire-Oakes, pretty nearly south by west to the river Lene, near Woolaton and Radford, no lime being found east of the

Lene. The limestone, which may be called a hungry limestone, rising up to the vegetable mould, commencing at Shire-Oakes, and beginning to abut on the coal near Teversall, runs afterwards between it and the sand. The line of coal begins a little north of Teversall, runs about south and by west to Brookhill, then south to Eastwood, afterwards about south-east or a little more easterly to Bilborough, Woolaton, and the Lene. This line is scarcely above a mile broad in this county, and above the coal is a blue or yellow clay. Between this and the sand of the forest is the strip before-mentioned of limestone.

This county may be said to be well watered for different purposes. The navigable Trent enters the county near Thrumpton, and runs through Nottinghamshire on both sides, till a little below North Clifton, from whence to the northern point of the county it forms the boundary between it and Lincolnshire. The Erwash forms the boundary between this county and Derbyshire, for ten or twelve miles, down to its junction with the Trent, a little below Thrumpton. The Soar forms the boundary between Nottinghamshire and Leicestershire, for seven or eight miles above its junction with the Trent, a little above Thrumpton. On the Forest side no less than five fine streams cross from east to west almost parallel to each other, and afterwards run to the north, forming the river Idle. The Rainworth Water runs from near Newsted Park to Inkersall Dam and Rufford, and joins the Marm at Ollerton. The Marm goes from Mansfield, by Clipston and Edwinstow, to Ollerton. The Meaden, by Budby and through Thoresby Park, joining the Marm near Perltorph. From this junction the river is called The Idle. The Wallin, through Welbeck Park, and after receiving the Poulter from Langwith and Cuckney, by Carberton, and through Clumber Park into the Idle, near Elksley. The Worksop runs from Worksop by Scofton, Bilby, Blyth, and Scrooby, into the Idle at Bawtry. Two other rivers run southward; the Lene from Newsted Park by Papplewick, Bulwell, Basford, and Lenton, into the Trent, by Nottingham bridge. The Dover or Dare Beck, from near Blidworth, by Oxtou and Calverton, Eperston and Lowdham, into the Trent near Caythorp. In their course through the Forest, these rivers run mostly through boggy bottoms. In the clay district, north of the Trent, are the Dover Beck, the Gréet, and many smaller nameless streams. In the Vale of Belvoir are the Devon, the Smite, and other smaller rills. By the canal from Chesterfield to Worksop and Ratford, and to the Trent at Stockwith, a great trade is carried on. There are also the Erwash and Nottingham canals, which now form a junction with the Cromford canal of Derbyshire. In fact we find Nottinghamshire as well supplied in that mode of commercial intercourse as any county in the kingdom. The Nottingham canal in some measure claims the precedence, its general course being about fifteen miles through the county in a north-westerly direction, but not exactly in a right line. It commences in the river Trent, and proceeds to the Cromford canal near Langley Bridge, very near to the termination of the Erwash canal; and it is also connected with the side-cut from the Trent and Mersey navigation,

called generally the Trent Canal, which enters near its southern limit. This navigation was finished in 1802. The Grantham canal is also connected with the Trent, commencing near Holm Pierpoint. The Idle river canal is more properly a river navigation than a cut. It commences at Bawtry, and runs nearly east for ten miles along the northern verge of the county. In one part of its course it has the name of Bycar Dyke; and about half a mile from Stockwith, where it joins the Trent (close to the junction of the Chesterfield canal with that river), is Mister-ton sluice, which has an opening of seventeen feet eight inches high, with two lock doors or gates sixteen feet high, opening to the Trent, for the purpose of keeping the floods out of the low lands, through which this river flows. But the most important water communication, in the northern district of the county, is the Chesterfield canal above mentioned, which commences in Derbyshire, close to that town, and enters Nottinghamshire near Shire-Oaks, thence by Worksop through the northern limits of Sherwood Forest, in a circuitous direction by Babworth to Retford, where it changes its course suddenly to the north, passing through Wellow, Hayton, Claborough, and Clayworth, by Wiseton Hall, Everton, and Drakelow, where it runs through a tunnel of 250 yards, and thence round Gringley-on-the-Hill in a north-east direction, through Misson Car to Misterton, across Walkingham Moor, and thence into the Trent at Stockwith. The whole line of this canal is about forty miles. This county produces hops in considerable quantities, particularly in most of the north clay districts. Weld or woad for dyers is also cultivated here. The mineralogy of Nottinghamshire has no peculiar feature: coal is the principal article.

The Roman and Saxon remains are numerous. As the camps at Barton Hill, at Combes farm, Gringley, Hexgrave, and Wenny Hill, and a Roman villa near Mansfield; the Castle of Newark, the Abbeys of Newstead, Rufford, and Welbeck; the priories of Mathersey and Worksop; and the churches of Balderton, Bingham, Blythe, and Southwell.

This county returns ten members to parliament; viz. four for the county; two for Nottingham, the county town; two for East Retford; two for Newark.

This county gave birth to the following distinguished persons:—John Arden, a learned surgeon, born at Newark-upon-Trent. He is mentioned as the reviver of surgery, and flourished in the fourteenth century.—Dr. John Blow, an eminent musician, born at Collingham, about 1648; died 1708.—Dr. William Chappel, the learned and pious bishop of Cork, Cloyne, and Ross; one of the reputed authors of *The Whole Duty of Man*.—The ingenious Dr. Erasmus Darwin, an eminent poet, philosopher, and physician, who is said to have cleared a guinea per line by his poetical works; born at Elston, near Newark, in 1731; died in 1802.—Sir Geoffrey or John Fenton, translator of the elaborate work of Guicciardini; died 1608.—His brother Edward, of whom an account may be found in Hackluyt's *Voyages*, was also a native of this county.—Dr. Samuel Jebb, a learned physician, was born at Nottingham, and died in 1772.—The late amia-

ble and celebrated biographer,—Dr. Andrew Kippis, was also a native of Nottingham; born in the year 1725; died in 1795.—The learned archbishop of Canterbury, Dr. Secker, was born at Sibthorpe, 1693; died 1768.—The Rev. Dr. R. Sterne; died 1684.—The late Rev. Gilbert Wakefield was born at Nottingham, 1756; died 1801.—The late Dr. William Warburton, bishop of Gloucester, who might be denominated the Gilbert Wakefield of the church establishment, was a native of Newark-upon-Trent; born in 1691; died 1779.

The malting business is carried on to a great extent in this county, particularly at Nottingham, Newark, and Mansfield, and in many other places. At Newark are breweries, which vie with those at Burton-upon-Trent. There is one also at Nottingham. The stocking trade is the most anciently established manufacture in this county. Nottingham and the surrounding villages abound with works in this trade. The hosiery frames were the discovery of a clergyman of this county, named Lee, in the reign of queen Elizabeth, who, being but little encouraged at home, repaired to Paris, and commenced his work under the auspices of Henry IV. The death of that monarch depriving him of a patron, he died in France, we are told, of chagrin, and the workmen returned home and introduced the machinery in this neighbourhood. Cotton-mills are erected in various places to prepare the thread for the Manchester manufacture, and for stockings and other purposes. The silk business is carried on at Nottingham; and Mansfield is a brisk place in the stone trade. Artificial marble is likewise made, and a considerable thread manufacture, and another of British lace.

NOTUS, *n. s.* Lat. The south wind.

With adverse blast upturns them from the south,
Notus and *Afer* black, with thunderous clouds
From Sierra Liona. *Milton's Paradise Lost.*

NOTWHEAT, *n. s.* Not and wheat.

Of wheat there are two sorts; French, which is bearded, and requireth the best soil, and *notwheat*, so termed because it is unbearded, being contented with a meaner earth. *Carew.*

NOTWITHSTANDING, *conj.* Or more properly, as Dr. Johnson observes, a participial adjective, compounded of *not* and *withstanding*, and answering exactly to the Latin *non obstante*. It is therefore most properly and analogically used in the ablative case absolute with a noun; as, he is rich notwithstanding his loss; it being not so proper to say, he is rich notwithstanding he has lost much; yet this mode of writing is frequent. When a sentence follows, it is more grammatical to insert that; as, he is rich notwithstanding that he has lost much. When notwithstanding is used absolutely, the expression is elliptical, this or that being understood.

They which honour the law as an image of the wisdom of God himself, are *notwithstanding* to know that the same had an end in Christ. *Hooker.*

The knowledge is small, which we have on earth concerning things that are done in heaven; *notwithstanding* this much we know, even of saints in heaven, that they pray. *Id.*

He hath a tear for pity, and a hand
Open as day, for melting charity;

Yet notwithstanding, being incensed, he's flint;
As humorous as winter. *Shakspeare. Henry IV.*

Those on whom Christ bestowed miraculous cures were so transported, that their gratitude made them, notwithstanding his prohibition, proclaim the wonders he had done for them. *Decay of Piety.*

A person languishing under an ill habit of body, may lose several ounces of blood, notwithstanding it will weaken him for a time, in order to put a new ferment into the remaining mass, and draw into it fresh supplies. *Addison.*

NOVALAISE, a town of Savoy, in the province of Chamberry, with 1500 inhabitants. In the neighbourhood are coal mines. Ten miles north-east of Pont-de-Beauvoisin.

NOVARA, a province of the Sardinian Milanese, sometimes called the Novarese, contains an area of 1400 square miles. It is divided into Upper and Lower Novara, the latter being a flat, and the former a more diversified country; but neither are very fertile; and Lower Novara being damp, and only fit for the cultivation of rice, is unhealthy. Flax and rice are the chief products of the Novarese; which is reckoned to contain 226,000 inhabitants.

NOVARA, an ancient town in the north-west of Italy, capital of the Novarese, and a bishop's see. Some writers say that this place was built by the Trojans, and called Nova Ara, i.e. the new altar, because they had erected there a temple to Venus. Tacitus mentions its being made a municipal city by the Romans; and there are many inscriptions extant which prove its ancient splendor. It is now a small but well-built and fortified town, defended by a castle, and situated on a little eminence, in a fine country, betwixt two rivers. It is remarkable for the several sieges sustained in past times, and for being the birth-place of Peter Lombard. It was taken by the French republicans, under general Victor, on the 6th December, 1798, previous to the erection of the short-lived Piedmontese Republic. After the overthrow of that democracy it was again taken by the French, under Murat, on the 30th of May 1800, and long annexed to the empire. It has a cathedral and seventeen churches, and had eighteen convents. In front of the castle is a spacious square containing a theatre. The churches worth notice are those of St. Dominici and St. Gaudengo: here is also a fine mansion of the Bellini family, and manufactures of silks, linen, and leather. Population 13,000. It lies ten miles north-east of Vercelli, and twenty-six W.S.W. of Milan.

NOVA SCOTIA, called by the French Acadia, a province of BRITISH AMERICA (see that article), bounded on the north-west by Canada, on the north-east by the gulf of St. Laurence, on the south-east by the Atlantic, and on the south by the Atlantic Ocean and the United States of America; between 300 and 400 miles from east to west, and of very different breadth: in some places 150, in others not more than forty from north to south. It was in the year 1784 divided into two provinces, viz. New Brunswick and Nova Scotia proper. Nova Scotia, in this limited sense, is a peninsula, joined to the continent by a narrow isthmus, at the north-east extremity of the bay of Fundy, and is about 240 miles in

length from south-west to north-east, and from thirty to sixty in breadth, and lies to the west of New Brunswick. The winter is here of great length and severity, continuing at least seven months, and to this succeeds, without the intervention of spring, a hot summer; the heat indeed is not of long continuance, the country being, for a considerable part, even of this season, wrapt in perpetual fog. The soil is thin and barren, and the grain it produces very inferior. The timber called lumber, with its fishery, are its only riches.

The coasts are rocky, and broken by innumerable bays, forming excellent harbours. The most worthy of notice are, Chaleurs Bay, which is many leagues deep, and which, being well situated for the fishery in the gulf of St. Laurence, has many fishing stations on its shores. The island Bonaventura, north of the bay, is inhabited by a few persons, who winter on it, merely to preserve the right to the neighbouring fishing grounds. The pierced rock, south of this island, at a distance resembles a ruined aqueduct. It is 400 yards long, 200 feet high, and is perforated in three places in the form of arches; through the central and largest of which a boat can pass under sail. Green Bay, in Northumberland Strait, forms the narrowest part of the isthmus of Nova Scotia, being but four miles from the head of the river Missaquash, which falls into the Bay of Fundy.

The Bay of Fundy (Baie Française of the French) is fifty leagues long. It is chiefly remarkable for the strength and height of the tides, which are said to run up the creeks with immense velocity, in a kind of bore, whose elevation is from fifty to seventy feet. The river St. John, or Clyde, the principal one of the province, falls into the Bay of Fundy, and is navigable for vessels of sixty tons fifty miles, and for boats 200; the tide flowing up it eighty miles. It abounds in small sturgeon, salmon, and bass: and its banks are level and fertile. Frederick Town, the capital of the province, is on this river, ninety miles from its mouth.

Passamaquody Bay, the western limit of the province, receives the river St. Croix. Before it are the Manan Islands, asserted by the Americans to be within their limits, but occupied by the English. The peninsula of Nova Scotia is joined to New Brunswick by an isthmus, four miles broad. Here the French established themselves prior to their settlement in Canada, and increased largely: but the first grant of lands seems to have been made to Sir William Alexander by our James I., from whom it received the name of Nova Scotia. It has more than once changed proprietors; nor was it confirmed to England till the peace of Utrecht. Thirty-six years after 3000 families were conveyed hither at the charge of the English government; and the town of Halifax, the present capital, founded. Since that time several other places have been founded, especially during the American war, when many royalists retired here.

NOVATIAN, an heresiarch of the third century, who was originally a pagan philosopher. He was baptised in bed when dangerously ill: recovering, he was afterwards ordained priest of

the church of Rome, his bishop having obtained this favor for him, which the clergy and people were not disposed to grant. By his talents and eloquence he might have been peculiarly serviceable to the church, had he not with cowardice shrunk from persecution. His ambition to be made a bishop likewise misled him. On the death of Fabian, bishop of Rome, he wrote to St. Cyprian to be appointed to succeed him; but the promotion of Cornelius to that dignity excited his envy and jealousy to such a pitch that he separated from the new bishop, and from all who professed to believe, what Novatian strenuously denied, that the church could receive those again who had been guilty of idolatry. He soon had a number of followers among the laity, and some even among the clergy. Novatus, a priest of Carthage, joined with his adherents. He was consecrated bishop of Rome in a most infamous and clandestine manner by three weak men whom he had imposed upon, and one of whom did penance for his concern in the business. But he never was acknowledged as bishop, Cornelius being confirmed, whilst he was condemned and excommunicated. He still, however, taught his doctrine, and at length became the head of the party which bears his name. St. Jerome informs us that he wrote on the Passover, on the Sabbath, on Circumcision, on the High Priests, on Prayer, on Jewish meals, and on firmness of mind, &c., with a treatise on the Trinity. None of them appear under his own name, and some are thought spurious.

NOVATIANS, NOVATIANS, a sect of ancient heretics that arose in the end of the third century, so called from Novatian. They were called also Cathari, from καθαρος, pure, q. d. Puritans. Novatian first separated from the communion of Cornelius on pretence of his being too easy in admitting to repentance those who had fallen off in times of persecution. Novatus, coming to Rome, joined Novatian; and both maintained that there was no other admission into the church but by repentance in baptism; grounding their opinion on that of St. Paul: 'It is impossible for those once enlightened, and who have tasted the heavenly gift, if they fall away, to renew themselves by repentance.' Not that they denied but a person, fallen into any sin, might obtain pardon by repentance (for they themselves recommended repentance in the strongest terms), but their doctrine was, that the church had it not in its power to receive sinners into its communion, as having no way of remitting sins but by baptism; which once received could not be repeated. The two leaders were proscribed, and declared heretics, not for excluding penitents from communion, but for denying that the church had a power of remitting sins. See NOVATUS.

NOVATION, or INNOVATION, in civil law, denotes the change of one kind of obligation for another, as when a promise is accepted instead of a written obligation.

NOVATUS, a priest of Carthage in the third century, who, to avoid being punished for a crime, joined with the deacon named Felicissimus against St. Cyprian. He went to Rome in 251, and there found Novatian, with whom he contracted a friendship; and afterwards pro-

moted his consecration to the see of Rome. This produced a very great schism. See NOVATIANS.

NOVA ZEMBLA (Rus. Zemlia, country, signifying therefore New Land), is the name of two large islands, placed by some geographers in Europe, and by others in Asia; they are separated by a strait named Matotchink, eternally frozen. Both islands are traversed from north to south by a chain of mountains, chiefly of slate, but with some fine black marble with white veins. A salt lake, pit coal, and mineral tar or asphaltum, have also been discovered. In the valleys the soil is frozen turf. The east coast is seldom accessible by ships. The rein-deer, the isats, and an animal resembling the rabbit, but only the size of the rat, are the only quadrupeds here. The eider duck is here in its proper climate; and the Samoides of the continent visit the southern shores of these islands to collect the down of these birds; and to hunt the seal and wolves. Between Nova Zembla and the continent is Waigat's island, the channel between which and the main is named Waigat's Strait, in which the greatest depth is eighty fathoms. The two islands, Matvief and Dolgoi, are south-west of Waigats, and are considered as appendages of Nova Zembla, which was taken possession of by Russia in 1679.

NOVEL, *adj.* & *n. s.* } Fr. *novelle*, Lat.
NOVELIST, *n. s.* } *novus, novellus*. New;
NOVELTY. } unusual; of late date;

in the civil law, appendant to the code; as a substantive it is used for a law annexed to the code; and in the French sense for a small or short tale, 'generally of love,' says Dr. Johnson, and generally small enough in sense, though often in modern times extending to several volumes: a novelist is an innovator, a supporter or asserter of novelties; also a writer of novels: novelty, newness; innovation; state of being new.

They which do that which men of account did before them, are, although they do amiss, yet the less faulty, because they are not the authors of harm; and, doing well, their actions are freed from prejudice or novelty. *Hooker.*

Novelty is only in request; and it is dangerous to be aged in any kind of course. *Shakespeare.*

Telesius, who hath renewed the philosophy of Parmenides, is the best of novelists. *Bacon.*

The Presbyterians are exvoters of submission to their novel injunctions, before they are stamped with the authority of laws. *King Charles.*

It is no novel usurpation, but, though void of other title, has the prescription of many ages. *Deau of Poetry.*

The fathers of this synod were not schismatical, as novelists in the matter of the sabbath. *White.*

Aristotle rose,

Who nature's secrets to the world did teach,
Yet that great soul our novelists impeach.

Denham.

The fooleries of some affected novelist have discredited new discoveries. *Clarendon's Sermons.*

Nothing of a foreign nature; like the trifling novels which Aristotle inserted in his poems. *Dryden.*

As religion entertains our speculations with great objects, so it entertains them with new; and novelty is the great parent of pleasure; upon which account it is that men are so much pleased with variety. *o. h.*

Her mangled fame in barbarous pastime lost,
The coxcomb's *novel*, and the drunkard's toast.

Prior.

By the *novel* constitutions, burial may not be denied to any one.

Ayliffe's Parergon.

By the civil law no one was to be ordained a presbyter till he was thirty-five years of age: though by a later *novel* it was sufficient if he was above thirty.

Id.

Such is the constant strain of this blessed saint, who every where brands the Arian doctrine, as the new, *novel*, upstart heresy, folly and madness.

Waterland.

The abettors and favourers of them he ranks with the Abonites, Argemonites, and Samosaterians, condemned hereticks, brands them as *novelists* of late appearing.

Id.

Words still suffice ;

No single word but has its price :

No term but yields some fair pretence

For *novel* and increased expense. *Cowper.*

I admire the preface, in which you have given an air of *novelty* to a worn out topic, and have actually engaged the favour of the reader by saying those things in a delicate and uncommon way, which in general are disgusting.

Id. Private Correspondence.

NOVEL, in the civil law, a term used for the constitutions of several emperors, more particularly those of Justinian. They were called *novels*, either from their producing a great alteration in the face of the ancient law, or because they were made on new cases, and after the revival of the ancient code.

NOVEMBER, *n. s.* Lat. *November*. The eleventh month of the year, or the ninth reckoned from March, which was, when the Romans named the months, accounted the first.

November is drawn in a garment of changeable green, and black upon his head.

Peacham.

NOVEMVIRI, nine magistrates of Athens, whose government lasted but for one year; the first of whom was called archon, or prince; the second basileus, or king; the third polemarchus, or general of the army: the other six were called thesmothetæ, or lawgivers. They took an oath to observe the laws; and, in case of failure, obliged themselves to bestow upon the commonwealth a statue of gold equal to their own weight. Those who discharged their office with honor were received into the number of the senators of Areopagus.

NOVENARY, *n. s.* Lat. *novenarius*. Number of nine; nine collectively.

Ptolemy by parts and numbers implieth climatrical years; that is, septenaries and *novenaries*.

Browne.

Looking upon them as in their original differences and combinations, and as selected out of a natural stock of nine quaternions, or four *novenaries*, their nature and differences lie most obvious to be understood.

Holder.

NOVERCAL, *adj.* Lat. *novercalis*, *noverca*. Having the manner of a stepmother; beseming a stepmother.

When the whole tribe of birds by incubation, produce their young, it is a wonderful deviation, that some few families should do it in a more *novercal* way.

Derham.

NOUGHT, *n. s.* Sax. *neauht*. Naught, as it should be written; but naught is by custom applied to bad or worthless things: and nought

to signify nothing; 'to set at naught' is not to value or regard.

Ye have set at *nought* all my counsel, and would none of my reproof.

Prov. i. 25.

Ye are of nothing, and your work of *nought*.

Isaiah xli. 24.

Thereto, said he, 'Faire Dame,' be *nought* dismissed,

For sorrows past; their griefe is with them gone.

Spenser. Fuerie Queene.

Who cannot see this palpable device?

Yet who so bold, but sees he sees it not?

Bad is the world, and it will come to *nought*,

When such ill dealings must be seen in thought.

Shakspeare.

Such smiling rogues as these sooth every passion, Renege, affirm, and turn their halcyon beaks

With every gale and vary of their masters,

And knowing *nought*, like dogs, but following. *Id.*

In young Rinaldo fierce desires he spied,

And noble heart, of rest impatient,

To wealth or sovereign power he *nought* applied.

Fairfax.

Be frustrate all ye stratagems of hell,

And devilish machinations come to *nought*.

Milton.

Who fixed the corner-stone; what hand declare,

Hung it on *nought*, and fastened it in air,

When the bright morning stars in concert sung,

When heaven's high arch with loud hosannas rung.

Young.

But oh! she's an heiress, auld Robin's a laird,
And my daddie has *nought* but a cot-house and yard;

A woer like me maunna hope to come speed,

The wounds I must hide that will soon be my dead.

Burns.

But recollecting, with a sudden thought,

That flight in circles urged advanced them *nought*,

They gathered close around the old pit's brink,

And thought again—but knew not what to think.

Cowper.

NOVGOROD, a considerable province of European Russia, to the east of the governments of Petersburg and Pskov. It lies between 20° 50' and 38° 50' of E. long., and 57° 30' and 60° 30' of N. lat., having an area of 55,000 square miles, but the number of inhabitants do not exceed 780,000. This province is surrounded by a part of the elevated tract called the Valdaic Mountains. In the north large tracts are covered either with marshes or moss; but the south part produces corn, hemp, flax, timber, and some iron and salt. The whole is divided into ten districts or circles. The rivers are the Volchov, the Msta, and the Mologa. The lakes Ilmen, Bielojo, Osero, and Vosh. Some manufactures of common articles are carried on in the towns; and in the country soap, linen, candles, and potash, are made. The exports are corn, flax, hemp, and wood. The capital of the province, employed in commerce, was declared, by an official report, in the beginning of this century, to be £1,200,000.

NOVGOROD, or NOVGOROD-VELIKI (the Great Novgorod), a large town of the north-west of European Russia, the capital of the above government, is situated in a plain at the north extremity of the lake Ilmen. The Volchov, a deep and rapid stream, divides it into two parts. The part on the right bank is called the Torgaraia, or Market Town; that on the left, the Sophiskaia,

and is surrounded with a rampart of earth, and a ditch flanked with towers. It is about a mile and a half in circumference, but this includes most open space, and contains the Kremlin or citadel, in which is an ancient palace of the czars, and the cathedral of St. Sophia, a large building with sculptured brazen gates. Some of the paintings here are of great antiquity, and the Russians, according to Dr. Clarke, are fond of copying them. 'We find at the end of the eighteenth century,' he observes, 'a Russian peasant placing before his bogh (God), a picture purchased in the market of St. Petersburg or Moscow, exactly similar to those brought from Greece during the tenth; the same stiff representation of figures which the Greeks themselves seem to have copied from works in mosaic; the same mode of mixing and laying on the colors on a plain gold surface; the same custom of painting upon wood; and the same expensive covering of a silver coat of mail.' Here are also some curious specimens of the architecture as well as painting of the eleventh and twelfth centuries. The tombs of Vladimir and of Theodor are in the cathedral, the gates of which are said to have been brought by the former from Cherson.

On the bridge leading to the kremlin from the other part of the town, Dr. Clarke noticed, 'a small sanctuary, where every peasant who passes deposits either his candle or his penny. Before this place, which is filled with old pictures of the kind already described, and which a stranger might really mistake for a picture-stall, devotees during the whole day may be seen bowing and crossing themselves. A Russian hardly commits any action without this previous ceremony. If he be employed to drive your carriage, his crossing occupies two minutes before he is mounted. When he descends, the same motion is repeated. If a church be in view, you see him at work with his head and hand as if seized with St. Vitus's dance. If he make any earnest protestation, or enter a room, or go out, you are entertained with the same manual and capital exercise. When beggars return thanks for alms, the operation lasts a longer time; and then, between the crossing, by way of interlude, they generally make prostration, and touch their foreheads to the earth.'

'The melancholy ideas excited by the present appearance of Novgorod,' Dr. Clarke further remarks, 'have been felt by all travellers. Who has not heard the ancient saying, which prevailed in the days of its greatness—*Quis contra Deos et magnam Novogordiam?*—Who can resist the gods and Novgorod the Great? Nomade Slavonians were its founders, about the time that the Saxons, invited by Vortigern, first came into Britain. Four centuries after, a motley tribe, collected from the original inhabitants of all the watery and sandy plains, around the Finland Gulf, made it their metropolis. Nearly 1000 years have passed away since Ruric, the Norman, gathering them together at the mouth of the Volchova (Volkhov), laid the foundation of an empire, destined to extend over the vast territories of all the Russias; afterwards, ascending the river to the spot where its rapid current rushes from the lake Ilmen, to the Ladoga Lake, he

fixed his residence in Novgorod. In the midst of those intestine divisions which resulted from the partition of the empire, at the death of Vladimir (A. D. 1015), who divided his states among his twelve sons, there arose three independent princes and a great number of petty confederacies. The seat of government was successively removed to Suzedal, Vladimir, and Moscow. Novgorod adopted a mixed government, partly monarchical and partly republican. In the middle of the thirteenth century (A. D. 1250) it was distinguished by the victories of its grand duke over the Swedes on the banks of the Neva; and, by its remote situation it escaped the ravages of the Tartars in the fourteenth. In the fifteenth it submitted to the yoke of Ivan I., whose successor Ivan II., in the sixteenth, ravaged and desolated the place, carrying away the palladium of the city, the famous bell, which the inhabitants had dignified with the appellation of eternal.' About the middle of the fifteenth century this town was the chief factory of the Hanseatic league, in their trade with Russia and Poland. Its territory at this time reaching, on the north, to the frontiers of Livonia and Finland, and comprising a great part of the province of Archangel, with a district beyond the north-west limits of Siberia. In 1553, in consequence of Ivan IV. seizing the effects, and imprisoning the persons, of the merchants resident there, Novgorod was abandoned by the Hanseatic league, and its traders removed first to Revel, and afterwards to Narva. It still continued, however, to be the most commercial city in Russia. Chancellor, who passed through it, thus describes it in 1554:—'Next unto Moscow, the city of Novgorod is reputed the chiefest of Russia; for although it be in majesty inferior to it, yet in greatness it goeth beyond it. It is the chiefest and greatest mart town of all Muscovy; and albeit the emperor's seat is not there, but at Moscow, yet the commodiousness of the river, falling into that gulf which is called Sinus Finnicus, whereby it is well frequented by merchants, makes it more famous than Moscow itself.' 'But its ruin was not fully accomplished,' as Dr. Clarke observes, 'until the building of St. Petersburg, when all the commerce of the Baltic was transferred to that capital.' The other part of the town contains the governor's house; the rest of the houses are wooden structures, very irregularly placed at present. But here a number of brick churches and convents witness its former consequence. A trade in corn is carried on here, and there are some considerable manufactures of canvas and other articles. The population of the whole city at present amounts only to 8000. Novgorod is still the see of an archbishop, and is 112 miles S. S. E. of St. Petersburg.

NOVGOROD-SIEVERSKOI, a town in the government of Czeruigov, in European Russia. It was for some time the capital of the government, and has three yearly fairs. It stands at the confluence of the Dnieper and Desna. Inhabitants 3000. Eighty-six miles E. N. E. of Czeruigov.

NOVI, a town of North-west Italy, in the Sardinian states, situated in a fertile plain, at the foot of the Appennines; on an eminence stands

the castle. The houses are often painted of various colors on the outside; several of the affluent inhabitants of Genoa have country residences here, and the place is on the whole well built. In front of the principal church is a public square. The chief manufactures are silk, and this place is an entrepot for goods coming from the Levant, which pass into Lombardy and the north of Germany. In August, 1799, one of the most sanguinary battles in the eighteenth century took place here, between the French under Joubert and Moreau, and the Austro-Russian forces under Suwarrow, in which the latter was victorious. Inhabitants 5400. Twenty-three miles north by east of Genoa.

NOVI-BAZAR, or NOVI-PAZAR, a considerable town of small trade, in the north of European Turkey, in Servia, near the Oresco, formerly the capital of the province of Rascia. It contains about 8000 inhabitants, partly Christians and partly Turks, and is seventy miles west by north of Nessa.

NOV'ICE, *n. s.* } Fr. *novice*, *noviciat*; Lat. NOVIT'IATE, } *novitiis*. One newly ac- NOV'ITY. } quainted with a thing; a fresh man; probationer: one in monastic affairs, who has not taken the vow: novitiate, the state of a novice, or of being under tutelage: novity, a foolish redundancy in our language, adopted only, as we find, by the author of 'Vulgar Errors' for novelty, newness.

Not a novice, lest being puffed up with pride he fall into the condemnation of the devil. *St. Paul.*

Bring me to the sight of Isabella,
A novice of this place.

Shakspeare. Measure for Measure.

You are novices; 'tis a world to see

How tame when men and women are alone,

A meacock wretch can make the cursest shrew.

Shakspeare.

We have novices and apprentices, that the succession of the former employed men do not fail.

Bacon.

The good man's actions are so many copies for novices to take out no less instructive than the wiser men's precepts.

Bp. Hall.

Some conceive she might not yet be certain, that only man was privileged with speech, and, being in the novity of the creation and unexperience of all things, might not be affrighted to hear a serpent speak.

Broune.

I am young, a novice in the trade,
The fool of love, unpractised to persuade;
And want the soothing arts that catch the fair,
But caught myself lie struggling in the snare.
And she I love, or laughs at all my pain,
Or knows her worth too well, and pays me with disdain.

Dryden.

This is so great a masterpiece in sin, that he must have passed his tyrocinium or novitiate in sinning, before he come to this, be he never so quick a proficient.

South.

If any unexperienced young novice happens into the fatal neighbourhood of such pests, presently they are plying his full purse and his empty pate.

Id.

In these experiments I have set down such circumstances, by which either the phenomenon might be rendered more conspicuous, or a novice might more easily try them, or by which I did try them only.

Newton's Opticks.

NOVIODUNUM, in ancient geography, the name of seven towns, mostly in Gaul; viz. 1. A town of the Ædii, commodiously seated on the Liguris (Cæsar), the Nivernum of Antonine; now called Nevers, on the Loire. 2. A town of the Auleri Diablintes, in Gallia Celtica (Antonine, Ptolemy). 3. A town of the Bituriges (Cæsar), now called Nueve sur Baranion; fifteen miles north of Bourges. 4. A town of Mæsia Inferior (Ptolemy), situated on the Ister; now Nivorz. 5. A town of Pannonia Superior (Antonine); now Gurfeld in Carinthia. 6. Noviodunum Saessionum, the same with Augusta Suessionum. 7. A town of the Veromandui, in Gallia Belgica (Cæsar); now called Noyon.

NOVIATE, or NOVICIATE, is a year of probation appointed for the trial of novices, whether they have a vocation, and the necessary qualities for living up to the rule; the observation whereof they are to bind themselves to by vow. The novitiate lasts more than a year in some houses. It is esteemed the bed of the civil death of a novice, who expires to the world by profession.

NOUN, *n. s.* Old French, *noun*; Lat. *nomen*. The name of any thing, in grammar.

Thou hast men about thee, that usually talk of a noun and a verb, and such abominable words as no christian ear can endure to hear.

Shakspeare.

A noun is the name of a thing, whether substance, mode, or relation, which in speech is used to signify the same when there is occasion to affirm or deny any thing about it, or to express any relation it has to any other thing.

Clarke.

The boy, who scarce has paid his entrance down, To this proud pedant, or declined a noun.

Dryden.

NOURISH, *v. a. & n. s.* } Fr. *nourrir*; Ital. } *nodrire*, *nutrire*; } *Span. nutrir*; Lat. } *nutrio*. To support; maintain; encourage; feed; promote growth and strength; train; educate: and, in an obsolete sense, to gain strength or grow: nourishable is susceptible of nourishment: a nourisher, he who yields or communicates strength, support, or maintenance: nourishment, nutriment; support of strength; hence food; sustentation.

A restorer of thy life, and a nourisher of thine old age.

Ruth.

I travel not, neither do I nourish up young men, nor bring up virgins.

Isaiah xxiii. 4.

Pharaoh's daughter took him up, and nourished him for her own son.

Acts vii. 21.

Thou shalt be a good minister of Jesus Christ, nourished up in the words of faith.

1 Tim. iv. 6.

What madness was it with such proofs to nourish their contentions, when there were such effectual means to end all controversy!

Hooker.

He instructeth them, that as in the one place they use to refresh their bodies, so they may in the other learn to seek the nourishment of their souls.

Id.

Whilst I in Ireland nourish a mighty band,
I will stir up in England some black storm.

Shakspeare.

Sleep, chief nourisher in life's feast.

Id.

In vegetable there is one part more nourishing than another; as grains and roots nourish more than their leaves.

Bacon.

Milk warm from the cow is a great nourisher, and a good remedy in consumptions.

Id.

I'll will I follow, and this house forego
That nourished me a maid.

Chapman.

Yet to *nourish* and advance the early virtue of young persons was his more chosen desire. *Fell.*

He that commanded the sea to stand still and guard us, can as easily command the earth to *nourish* us. *Bp. Hall.*

Please to taste

These bounties, which our *nourisher* hath caused
The earth to yield. *Milton's Paradise Lost.*

By temperance taught,
In what thou eatest and drinkest; seeking from
thence

Due *nourishment*, not gluttonous delight. *Milton.*

The chyle is mixed herewith, partly for its better conversion into blood, and partly for its more ready adhesion to all the *nourishable* parts. *Grew.*

When the *nourishment* grows unfit to be assimilated, or the central heat grows too feeble to assimilate it, the motion ends in confusion, putrefaction and death. *Newton's Opticks.*

The limbs are exhausted by what is called an atrophy, and grow lean and thin by a defect of *nourishment*, occasioned by an inordinate scorbatick or erratic heat. *Blackmore.*

Through her *nourished* powers enlarged by thee,
She springs aloft. *Thomson's Seasons.*

You are to honour, improve, and perfect the spirit that is within you: you are to prepare it for the kingdom of heaven, to *nourish* it with the love of God and of virtue, to adorn it with good works, and to make it as holy and heavenly as you can. *Law.*

And seems it nothing in a father's eye

That unimproved those many moments fly ?

And is he well content his son should find

No *nourishment* to feed his growing mind

But conjugated verbs and nouns declined ?

For such is all the mental food purveyed

By public hacknies in the schooling trade. *Cowper.*

Pride at the bottom of the human heart
Lay, and gave root and *nourishment* to all
That grew above. *Pollok.*

NOURITURE, *n. s.* } Fr. *nourrice*, *nourri-*
NOUR'SLING, } *ture*. See NURSE and
NOUR'SLE, *v. a.* } NURTURE. Tutelage;

education: a nursling is used by Spenser for the creature nursed: to nurse by *Bp. Hall* for to tutor, educate.

Thither the great magician Merlin came,
As was his use, oftimes to visit me;

For he had charge my discipline to frame,
And tutors *nouriture* to oversee. *Spenser.*

If the poor seduced souls of foreign subjects, that have been invincibly *noursled*, commiserate with weeping eyes and bleeding hearts, be carried hood-winked to those hideous impieties—shall the native subjects of the defender of the faith, who have been trained up in so clear a light of the gospel, begin to cast wanton eyes upon their glorious superstitions ? *Bp. Hall.*

NOU'SEL, *n. s.* The same with nuzzel, and both corrupted from nurse. To nurse up: hence to confine. Obsolete.

Bald friars and knavish shavelings sought to *nouse* the common people in ignorance, lest being once acquainted with the truth of things, they would in time smell out the untruth of their packed pelf and mass-penny religion. *Spenser.*

NOW, *adv., conj. & n. s.* } Sax. *nu*; Goth.,
NOWADAY, *adv.* } Swed. and Dan. *nu*;

Teut. *nun*; Lat. *nunc*; Gr. *νυν*: there is also a Pers. *nu*. At the present time; at any time supposed to be present; a little while ago: it is often used conjunctively as a particle of connec-

tion or inference: and, by way of contrast with *then*, to denote present time emphatically: or a succession of places, as they rise to notice: as a substantive, seldom used but in poetry, it signifies the present moment: now-a-days, means in the present age; in these days.

Thy servants trade hath been about cattle, from
our youth even until *now*. *Gen. xlvi. 34.*

Then cried they all again, saying, Not this man
but Barabbas; *now* Barabbas was a robber. *St. John.*

Not so great as it was wont of yore,

It's *nowadays*, ne half so strait and sore.

Spenser.

Now whatsoever he did or suffered, the end thereof was to open the doors of the kingdom of heaven, which our iniquities had shut up. *Hooker.*

Now and *then* they ground themselves on human authority, even when they most pretend divine. *Id.*

Now the blood of twenty thousand men

Did triumph in my face, and they are fled. *Shakspeare.*

Reason and love keep little company together
nowadays. *Id.*

A mead here, there a heath, and *now* and *then* a
wood. *Drayton.*

Natural reason persuades man to love his neighbour, because of similitude of kind: because mutual love is necessary for man's welfare and preservation, and every one desires another should love him. *Now* it is a maxim of Nature, that one do to others, according as he would himself be done to. *White.*

Nothing is there to come, and nothing past,

But an eternal *now* does ever last. *Cowley.*

How frail our passions !

They that but *now* for honour and for plate,

Made the sea blush with blood, resign their hate. *Waller.*

Refer all the actions of this short and dying life to that state which will shortly begin, but never have an end; and this will approve itself to be wisdom at last, whatever the world judge of it *now*. *Tillotson.*

Such are those principles which, by reason of the bold cavils of perverse and unreasonable men, we are *nowadays* put to defend. *Id.*

Now and *then* something of extraordinary, that is any thing of your production, is requisite to refresh your character. *Dryden.*

She vanished, we can scarcely say she died,

For but a *now* did heaven and earth divide;

This moment perfect health, the next was death. *Id.*

How shall any man distinguish *now* betwixt a parasite and a man of honour, where hypocrisy and interest look so like duty and affection ? *L'Estrange.*

Now that languages abound with words standing for such combinations, an usual way of getting these complex ideas, is by the explication of those terms that stand for them. *Locke.*

Pheasants which are granivorous birds, the young live mostly upon ants eggs. *Now* birds, being of a hot nature, are very voracious, therefore there had need be an infinite number of insects produced for their sustenance. *Ray.*

A most effectual argument against spontaneous generation is, that there is no new species produced, which would *now* and then happen, were there any such thing. *Id.*

It was a vestal and a virgin fire, and differed as much from that which passes by this name *nowadays*, as the vital heat from the burning of a fever. *South.*

Helim bethought himself, that the first day of the full moon of the month Tizpa was near at hand. Now it is a received tradition among the Persians, that the souls of the royal family, who are in a state of bliss, do, on the first full moon after their decease, pass through the eastern gate of the black palace.

Addison's Guardian.

The praise of doing well

Is, to the ear, as ointment to the smell.

Now if some flies, perchance, however small,

Into the alabaster urn should fall,

The odours die.

Prior.

The only motives that can be imagined of obedience to laws, are either the value and certainty of rewards, or an apprehension of justice and severity. Now neither of these, exclusive of the other, is the true principle of our obedience to God.

Rogers.

They now and then appear in the offices of religion, and avoid some scandalous enormities. *Id.*

A patient of mine is now living, in an advanced age, that thirty years ago did, at several times, cast up from the lungs a large quantity of blood.

Blackmore.

He who resolves to walk by the gospel rule of forbearing all revenge, will have opportunities every now and then to exercise his forgiving temper.

Aterbury.

Now high, now low, now master up, now miss.

Pope.

While like a tide our minutes flow

The present and the past,

He fills his own immortal now

And sees our ages waste.

Watts.

What men of spirit nowadays,

Come to give sober judgment of new plays.

Garrick.

Let my obedience then excuse

My disobedience now,

Nor some reproof yourself refuse

From your aggrieved Bow-wow. *Cowley.*

Of Adam's race he was, and lonely sat
By chance that day in meditation deep,
Reflecting much of time, and earth, and man ;
And now to pensive, now to cheerful notes,
e touched a harp of wondrous melody. *Pollok.*

NOWARAHAUT, a town of Bengal, the station of the war and state boats belonging to the nabobs of Bengal. The establishment consisted of 760 boats of various kinds ; which, beside the crew of sailors, were manned by 1000 Portuguese, or native Christians, who served as artillery-men ; and a jagier or estate was assigned for its support, yielding nearly £100,000 per annum. Since the English reduced this establishment the town has fallen to decay. Ten miles north-east of Dacca.

NOWEDY, *adj.* } Lat. *nodus* ; French *noûé*.
Nowes, *n. s.* } Knotted ; inwreathed : nowes,
the marriage knot.

Reuben is conceived to bear three barres waved,
Judah a lion rampant, Dan a serpent nowed.

Browne.

Thou shalt look round about and see
Thousands of crowned souls thronged to be
Themselves thy crown, sons of thy nowes ;
The virgin births with which thy spouse
Made fruitful thy fair soul. *Crashaw.*

NO'WHERE, *adv.* No and where. Not in any place.

Some men, of whom we think very reverently, have in their books and writings *nowhere* mentioned or taught that such things should be in the church.

Hooker.

True pleasure and perfect freedom are *nowhere* to be found but in the practice of virtue. *Tillotson.*

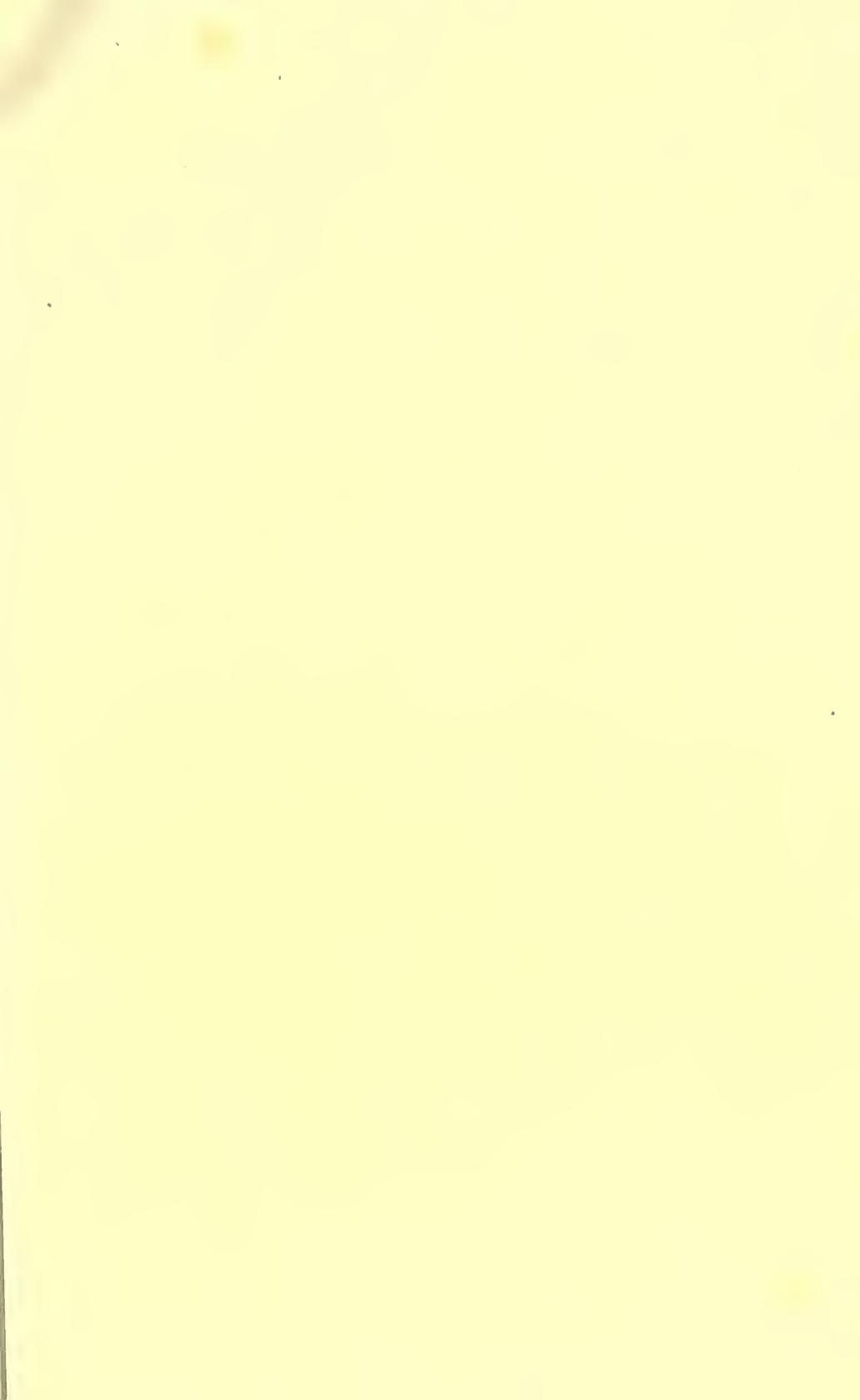
NO'WISE, *adj.* No and wise. This is commonly spoken and written by the ignorant neways ; not in any manner or degree.

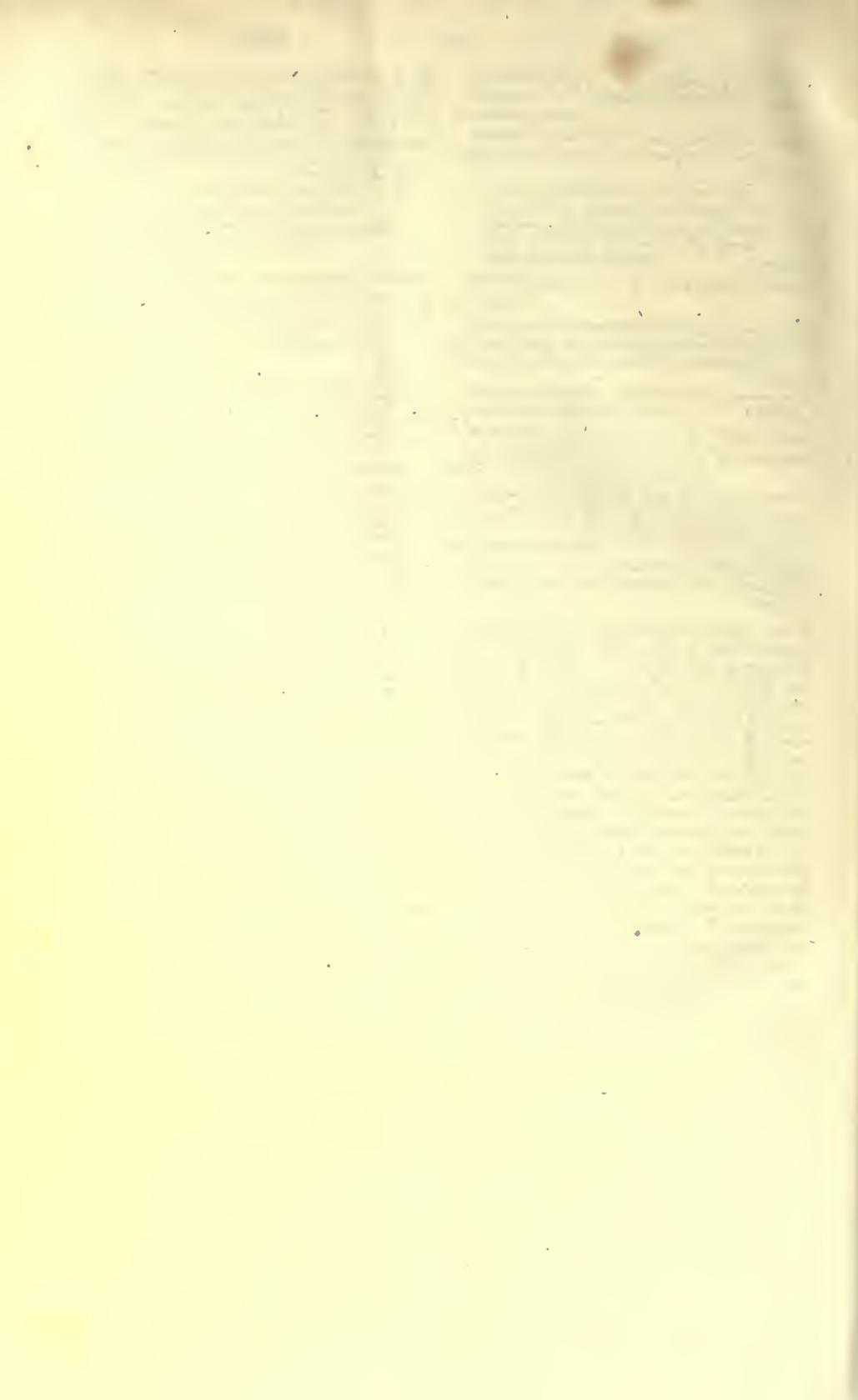
These animalcula gloria, these flies, these insects of glory, these not bladders, but bubbles of vanity, would be admired and praised for that which is *nowise* admirable or laudable. *Barrow.*

A power of natural gravitation, without contact or impulse, can in *nowise* be attributed to mere matter.

Bentley.

NOX, Night, in the pagan mythology, one of the most ancient deities among the heathens, daughter of Chaos. From her union with her brother Erebus she gave birth to the Day and the Light. She was also the mother of the Parcæ, Hesperides, Dreams, Discord, Death, Momus, Fraud, &c. She is called by some of the poets the mother of all things, of gods as well as of men ; and she was worshipped with great solemnity by the ancients. She had a famous statue in Diana's temple at Ephesus. It was usual to offer her a black sheep, as she was the mother of the Furies. The cock was also offered to her, as that bird proclaims the approach of day during the darkness of the night. She is represented as mounted on a chariot, and covered with a veil bespangled with stars. The constellations generally went before her as her constant messengers. Sometimes she is seen holding two children under her arms ; one of whom is black, representing Death ; and the other white, representing Sleep. Some describe her as a woman veiled in mourning, crowned with poppies, and carried in a chariot drawn by owls and bats.







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